

# Number of value-added courses for imparting transferable and life skills offered during the year

2021-2022



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## *Maharaja Ganga Singh University*

A State University of Higher Education for Dignity and Self-Reliance

Approved by UGC under Section 12B of the UGC Act 1956

NH 15, Jaisalmer Road, Bikaner-334004 (Rajasthan), India

<https://mgsubikaner.ac.in>

# SCHEME OF EXAMINATION AND SYLLABUS

## FACULTY OF COMPUTER

**Masters in Computer Science (Semester System)**

**Choice Based Credit System**

EXAMINATION 2021-22

**Session 2020-21**

**Exam 2021 and 2022**



**@M.G.S. UNIVERSITY, BIKANER**

## SCHEME OF EXAMINATION

### 1. ELIGIBILITY FOR ADMISSION

Graduates possessing 50% marks in any faculty of any statutory university shall be eligible for admission to the M.Sc. Computer Science Course (Relaxation to SC/ST etc. as per Prevailing Rules)

### 2. PASS CRITERIA

For passing in the examination, a candidate is required to obtain at least 25% in each paper (Internal + External) and 36% marks in the total aggregate in theory and practical separately (in each semester examination).

### 3. CLASSIFICATION OF SUCCESSFUL CANDIDATE

| <b>Division</b> | <b>Total Marks</b>      |
|-----------------|-------------------------|
| First Division  | 60% and above           |
| Second Division | Above 48% and below 60% |
| Pass            | Above 36% and below 48% |
| Fail            | Below 36%               |

### 4. INSTRUCTIONS TO PAPER SETTER

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

The word limit of part A, B and C are 50, 200 and 500 respectively

### 5. INSTRUCTIONS FOT PRACTICAL EXAMINATION

Marks Distribution for Practical Exam -

1. Each practical exam is to be conducted by two examiners one External and one Internal. External examiner should be senior lecturer from jurisdiction of other universities. Marks distribution for external practical of 40 marks is as under
 

|  |          |
|--|----------|
| a) Practical Examination exercise of 3 questions | 30 marks |
| b) Viva-Voce                                     | 5 marks  |
| c) Laboratory Exercise File                      | 5 marks  |
2. Marks distribution for External Project report of 40 marks is as under
  - a. External Evaluation-
    - i. Research Project/ Case Study      25 marks
    - ii. Presentation                              10 marks
    - iii. External Viva Voce                      5 marks
  - b. Internal Evaluation- Dissertation      10 Marks

### 6. INSTRUCTIONS FOR STUDENTS

- The student has to complete two months career oriented summer training from any firm/organization. If the student does not get chance to go for training, he/she can chose a research topic and can complete dissertation under the supervision of any of the faculty in his college.
- The student who has opt training, has to provide a signed certificate from the firm/organization authority stating that the student has spent two months as a trainee in his organization/firm. The student who have opt dissertation, has to submit his/her dissertation report with a certificate from his supervisor.

- In both the cases student has to present his work in front of all the faculty members and fellow students at the starting of the next session.
- In terms of credits, every one hour session of L amounts to 1 credit per semester and a minimum of two hour session of T or P amounts to 1 credit per semester.

**\* An Academic/ Industrial Tour shall be organized by the college/department in every session. A Tour Report shall be prepared and submitted by the students after a study tour to industries/academic institutions of repute.**

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2020-21**

**Teaching and Examination scheme for**  
**M.Sc. Computer Science (Semester System)**  
**Examination 2021**  
**Session 2020-21**

| <b>Semester I</b>                                   |                                  |            |                |                |                               |           |   |   |   |
|---|----------------------------------|------------|----------------|----------------|-------------------------------|-----------|---|---|---|
| Course Code   | Course Name                      | Exam Hours | Maximum Marks  |                | Minimum Passing Marks         | Credit    | L | T | P |
|   |                                  |            | Internal Marks | External Marks |                               |           |   |   |   |
| <b>Theory Papers</b>                                |                                  |            |                |                |                               |           |   |   |   |
| MCS 101 (CC)  | Mathematics for Computer Science | 3          | 10             | 40             | 13<br>(25%)                   | 5         | 4 | 1 | 0 |
| <b>MCS 102 (CC)</b>                                 | <b>Internet Programming</b>      | 3          | 10             | 40             | 13<br>(25%)                   | 5         | 4 | 1 | 0 |
| MCS 103 (CC)  | Computer Organization            | 3          | 10             | 40             | 13<br>(25%)                   | 5         | 4 | 1 | 0 |
| <b>MCS 104 (CC)</b>                                 | <b>C++ Programming</b>           | 3          | 10             | 40             | 13<br>(25%)                   | 5         | 4 | 1 | 0 |
| <b>MCS 105 (CC)</b>                                 | <b>Combined Practical</b>        | 6          | 20             | 80             | 25<br>(25%)                   | 5         | 0 | 0 | 5 |
|   |                                  |            | <b>60</b>      | <b>240</b>     |                               | <b>25</b> |   |   |   |
| <b>Total of Theory (Internal 60 + External 240)</b> |                                  |            |                | <b>300</b>     | <b>108</b><br>(36% aggregate) |           |   |   |   |

CC=Core Compulsory

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2020-21**

**Teaching and Examination scheme for**  
**M.Sc. Computer Science (Semester System)**  
**Examination 2021**  
**Session 2020-21**

| <b>Semester II</b>                                  |                                   |            |                |                |                            |           |   |   |   |
|---|-----------------------------------|------------|----------------|----------------|----------------------------|-----------|---|---|---|
| Paper Code  | Paper Name                        | Exam Hours | Maximum Marks  |                | Minimum Passing Marks      | Credits   | L | T | P |
|   |                                   |            | Internal Marks | External Marks |                            |           |   |   |   |
| <b>Theory Papers</b>                                |                                   |            |                |                |                            |           |   |   |   |
| MCS 201 (CC)  | Database Management System        | 3          | 10             | 40             | 13 (25%)                   | 5         | 4 | 1 | 0 |
| MCS 202 (CC)  | Data Communication and Networking | 3          | 10             | 40             | 13 (25%)                   | 5         | 4 | 1 | 0 |
| MCS 203 (CC)  | Operating System                  | 3          | 10             | 40             | 13 (25%)                   | 5         | 4 | 1 | 0 |
| MCS 204 (CC)  | PHP                               | 3          | 10             | 40             | 13 (25%)                   | 5         | 4 | 1 | 0 |
| MCS 205 (CC)  | Combined Practical                | 6          | 20             | 80             | 25 (25%)                   | 5         | 0 | 0 | 5 |
|   |                                   |            | <b>60</b>      | <b>240</b>     |                            | <b>25</b> |   |   |   |
| <b>Total of Theory (Internal 60 + External 240)</b> |                                   |            |                | <b>300</b>     | <b>108 (36% aggregate)</b> |           |   |   |   |

CC=Core Compulsory

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2020-21**

**Teaching and Examination scheme for**  
**M.Sc. Computer Science (Semester System)**  
**Examination 2022**  
**Session 2021-22**

| <b>Semester III</b>                             |  |            |                |                |                                    |           |   |   |   |
|---|--|------------|----------------|----------------|------------------------------------|-----------|---|---|---|
| Paper Code                                      | Paper Name   | Exam Hours | Maximum Marks  |                | Minimum Passing Marks              | Credits   | L | T | P |
|   |  |            | Internal Marks | External Marks |                                    |           |   |   |   |
| <b>Theory Papers</b>                            |  |            |                |                |                                    |           |   |   |   |
| MCS 301<br>(CC)                                 | Data Structures  | 3          | 10             | 40             | 13<br>(25%)                        | 5         | 4 | 1 | 0 |
| MCS 302<br>(CE)                                 | a) Java<br>b) Python   | 3          | 10             | 40             | 13<br>(25%)                        | 5         | 4 | 1 | 0 |
| MCS 303<br>(CE)                                 | a) Software Engineering & Research Methodology<br>b) Artificial Intelligence | 3          | 10             | 40             | 13<br>(25%)                        | 5         | 4 | 1 | 0 |
| MCS 304<br>(CC)                                 | Combined Practical   | 6          | 20             | 80             | 25<br>(25%)                        | 5         | 0 | 0 | 5 |
| MCS 305<br>(EO)                                 | a) Data Analysis Using R<br>a) Introduction to LaTeX                         | 3          | 10             | 40             | 13<br>(25%)                        | 5         | 4 | 1 | 0 |
|   |  |            | <b>60</b>      | <b>240</b>     |                                    | <b>25</b> |   |   |   |
| <b>Grand Total (Internal 60 + External 240)</b> |  |            |                | <b>300</b>     | <b>108<br/>(36%<br/>aggregate)</b> |           |   |   |   |

CC=Core Compulsory, CE= Core Elective, EO = Elective Open

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2020-21**

**Teaching and Examination scheme for**  
**M.Sc. Computer Science (Semester System)**  
**Examination 2022**  
**Session 2021-22**

| <b>Semester IV</b>                               |   |                   |                       |                       |                                    |                |          |          |          |
|--|---|-------------------|-----------------------|-----------------------|------------------------------------|----------------|----------|----------|----------|
| <b>Paper Code</b>                                | <b>Paper Name</b>                                       | <b>Exam Hours</b> | <b>Maximum Marks</b>  |                       | <b>Minimum Passing Marks</b>       | <b>Credits</b> | <b>L</b> | <b>T</b> | <b>P</b> |
|  |   |                   | <b>Internal Marks</b> | <b>External Marks</b> |                                    |                |          |          |          |
| <b>Theory Papers</b>                             |   |                   |                       |                       |                                    |                |          |          |          |
| <b>MCS 401 (CC)</b>                              | a) Data Mining<br>b) Computer Graphics & Multimedia     | 3                 | 10                    | 40                    | 13<br>(25%)                        | 5              | 4        | 1        | 0        |
| <b>MCS 402 (CE)</b>                              | (a) Android Programming<br>(b) Advanced Web Programming | 3                 | 10                    | 40                    | 13<br>(25%)                        | 5              | 4        | 1        | 0        |
| <b>MCS 403 (CE)</b>                              | a) Cloud Computing<br>b) Internet of Things             | 3                 | 10                    | 40                    | 13<br>(25%)                        | 5              | 4        | 1        | 0        |
| <b>MCS 404 (CC)</b>                              | Combined Practical                                      | 6                 | 20                    | 80                    | 25<br>(25%)                        | 5              | 0        | 0        | 5        |
| <b>MCS 405 (EO)</b>                              | (a) Research Project<br>(b) Case Study                  | 3                 | 10                    | 40                    | 13<br>(25%)                        | 5              | 4        | 1        | 0        |
|  |   |                   | <b>60</b>             | <b>240</b>            |                                    | <b>25</b>      |          |          |          |
| <b>Grand Theory (Internal 60 + External 240)</b> |   |                   |                       | <b>300</b>            | <b>108<br/>(36%<br/>aggregate)</b> |                |          |          |          |

CC=Core Compulsory, CE= Core Elective, EO = Elective Open

Masters in Computer Science (Semester System)  
Choice Based Credit System  
EXAMINATION 2021-22

**Semester I**

**Paper Code:**MCS-101

**Paper Name:** Mathematics for Computer Science

**Objective** – After successful completion of this course, the student will have the basic knowledge of Mathematics that is required for better understanding of other computer science courses.

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**Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

**Note:** Non-Scientific Calculator may be allowed in end-semester examination.

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**Unit – I**

**Sets:** different types of sets, set operations; Basic Counting Principles, Pigeonhole Principle, Binomial Coefficients, Binomial Theorem, Permutations, Combinations; **Matrices:** addition, multiplication; **Vectors:** Position vector, addition, subtraction and products of vectors.

**Unit - II**

Mathematical Induction; **Logic:** Propositions and logical operations, Conditional statements, Tautologies and Contradictions, Logical Equivalence, quantifiers.

**Unit - III**

**Relations:** Representation of Relations, Properties of relations, transitive closure; Ordered Sets: poset, Properties, Hasse Diagram, Extremal elements of posets ; **Functions:** Types of Functions, Asymptotic notations; Co-ordinate Systems: representation of points, straight lines, standard equation of circles.

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**Suggested Readings**

1. Discrete Mathematics and its applications by K.H. Rosen, seventh edition
2. Discrete Mathematical Structures by Kolman, Busby and Ross, Sixth Edition, PHI.
3. Schaum's Outline Of Theory and Problems of Discrete Mathematics, Third Edition. SEYMOUR LIPSCHUTZ
4. NCERT Mathematics textbook for class XI and XII
5. Elements of Discrete Mathematics, TMH, C L Liu
6. Foundation Mathematics for Computer Science: A Visual Approach, John Vince, Springer
7. Calculus and Analytic Geometry, George B. Thomas and Ross L. Finney, Addison Wesley

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-102**

**Paper Name : Internet Programming**

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**Objective** - After successful completion of this course, the student will understand, analyze and apply the role languages like HTML, CSS, JavaScript and protocols in the workings of web and websites.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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### Unit I

Internet Basics: Evolution of Internet, Basic internet terms and applications. ISP, Anatomy of an e-mail Message, basic of sending and receiving, E-mail Protocol; Mailing List-Subscribing, Unsubscribing. Introduction to World Wide Web and its work, Web Browsers, Search Engine, Downloading, Hyper Text Transfer Protocol (HTTP), URL, Web Servers, FTP, Web publishing- Domain Name Registration, Space on Host Server for Web Site, Maintain and Updating.

### Unit - II

HTML: Elements of HTML & Syntax, Comments, Headings, Paragraph, Span, Pre Tags, Backgrounds, Formatting tags, Images, Hyperlinks, div tag, List Type and its Tags, Table Layout, div, frame, Use of Forms in Web Pages. CSS: Introduction to Cascading Style Sheets, Types of Style Sheets (Inline, Internal and External), using Id and Classes, CSS properties: Background Properties, Box Model Properties, Margin, Padding, List Properties, Border Properties, Positioning Properties,

### Unit - III

**Java Script:** Introduction to Client Side Scripting, Introduction to Java Script, Comments, Variables in JS, Global Variables, Data types, Operators in JS, Conditions Statements (If, If Else, Switch), Java Script Loops (For Loop, While Loop, Do While Loop), JS Popup Boxes (Alert, Prompt, Confirm), JS Events, Onload, Onunload, Onsubmit, OnFocus, Onchange Event, Onblur Event, Onmouseover, Onclick, Ondblclick Events, JS Arrays, Working with Arrays, JS Objects, Window object, Document object, JS Functions, getElementById, innerHTML property, inner Text property, form validation, email validation.

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### Suggested Readings

1. Thomas A. Powell , "HTML: The Complete Reference", Osborne/McGraw-Hill
2. Deitel, Deitel and Nieto : Internet & WWW. How to program, 2<sup>nd</sup> Edition, Pearson Education Asia.
3. E Stephen Mack, Janan Platt : HTML 4.0 , No Experience Required, 1998, BPB Publications.
4. "HTML Complete" by Sybex, BPB Publications, 2001.

Masters in Computer Science (Semester System)  
Choice Based Credit System  
EXAMINATION 2021-22

5. Internet and Web Page Designing By V.K Jain (BPB)
6. Web Enabled Commercial Application Development Using HTML, DHTML ,  
java script, Perl CGI By Ivan Bayross (BPB)

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code:MCS-103**

**Paper Name : Computer Organization**

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**Objective** - After successful completion of this course, the student will understand basic computer organization, design and micro-operations, understanding of CPU functioning and computer arithmetic, learning techniques of memory organization and 8085 Microprocessor.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

**Note:** Non-Scientific Calculator may be allowed in end-semester examination.

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### Unit I

**Components of a Computer:** Processor, Memory, Input-Output Unit, Difference between Organization and Architecture, Hardware Software Interaction. **Number System:** Concept of Bit and Byte, types and conversion. **Complements:** 1's complement, 2's complement. **Binary Arithmetic:** Addition, overflow, subtraction, multiplication (booth's algorithm) and division algorithm. **Logic gates:** Boolean Algebra, Map Simplification.

### Unit II

**Combinational circuits:** Half Adder, Full Adder, Decoders, Multiplexers. **Sequential circuits:** Flip Flops- SR, JK, D, T Flip-Flop, Excitation Tables, State Diagram, State Table,, Registers, Counters.

**Input Output Organization:**Peripheral devices, I/O Interface, Asynchronous Data Transfer, Modes of Data Transfer, Priority Interrupt, Direct Memory Access, I/O Processor.

**Memory Organization:**Types and capacity of Memory, Memory Hierarchy, Associative Memory, Buffer, Cache Memory, Virtual Memory.

### Unit III

**Intel 8085 Microprocessor:**Introduction, ALU, Timing and Control Unit, Register Set, Data and Address Bus, Addressing modes, Complete Intel 8085 Instruction set, Instruction format, Opcode and Operand, Word Size, Instruction Cycle, Pin Configuration, Intel 8085 programs.

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### Suggested Readings

1. Computer System Architecture, By M. Morris Mano (Pearson, Prentice Hall)
2. J.P. Hayes, "Computer Architecture & Organization", Tata McGraw Hill
3. Digital Computer Electronics By Malvino Leach, Jerald A. Brown(McGraw Hill)

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

4. Microprocessor Architecture, Programming, and Application With the 8085 By Ramesh Gaonkar (PENRAM)
5. Fundamentals of Microprocessor and Microcomputes By B.Ram (Danpat Rai Publications)

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-104**

**Paper Name : C++ Programming**

**Objective** – After successful completion of this course student will have an understanding for the concepts of object oriented programming and a practical hand to solve the various problems using C++ programming language in a professional way.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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### Unit I

**Object Oriented System** Object Oriented Paradigm: need, characteristics, applications. Basics of C++, branching, looping and jump statements. **Functions** : need, types, passing arguments by value and reference, recursive function, pointers and functions. **Arrays**: need, types, array and function, array and pointers.

### Unit II

**Class**: Basics, static data members, Inline Function, Constructors and Destructors: need, types, usage, **Inheritance** - need, usage, types, compile time and run time polymorphism, overloading and overriding, virtual function, friend function, abstract class. **Operator overloading**: need, rules, through member function and through friend function.

### Unit III

String handling, String class, **Templates, Additional Features for C++ 11, C++14 and C++17** Searching and Sorting: **Searching**: Linear Search, Binary Search. **Sorting**: Insertion Sort, Selection Sort, Quick Sort, Bubble Sort, Heap Sort, Shell Sort, Merge sort, Radix Sort, Counting Sort, Bucket Sort.

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### Suggested Readings

1. Object Oriented Programming With C++ By E. Balagurusamy (Tata Mcgraw Hill)
2. C++ The Complete Reference By Herbert Schildt (Tata Mcgraw Hill)
3. Object Oriented Programming With C++ By Schaum Series (Tata Mcgraw Hill)
4. C++11 for Programmers (Deitel Developer) by Paul J. Deitel (Author), Harvey M. Deitel, Prentice Hall; 2nd edition
5. Professional C++ by Marc Gregoire, Nicholas A. Solter and Scott J. Kleper (Goodreads Publications)
6. A Tour of C++ by Bjarne Stroustrup, 2018
7. C++17 in Detail by Bartłomiej Filipek

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

8.

**Paper Code:MCS-201**

**Paper Name : Database Management System**

**Objective** – The aim of this course is to furnish students with the knowledge about back end of software systems. After completing this course, the students will be well versed with the required theoretical and practical aspects of designing, creating and using a database.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

#### Unit I

**Introduction:** Charecteristics of database approach, Advantages, Database system architecture, Overview of different types of Data Models and data independence, Schemas and instances, Databse languges and interfaces; **E-R Model** : Entities, Attributes,keys, Relationships, Roles, Dependencies, E-R Diagram; Normalization: Definition, Functional dependencies and inference rules, 1NF, 2NF, 3NF and BCNF.

#### Unit II

**Introduction to Relational model**, Constraints: Domain, Key, Entity integrity, Referential integrity; Keys: Primary, Super, Candidate, Foreign; **Relational algebra**: select, project, union, intersection, minus, cross product, different types of join , division operations; aggregate functions and grouping; **SQL**: Data Types, statements: select, insert, update,delete, create, alter, drop; views, SQL algebraic operations, nested queries; Stored procedures: Advantages, Variables, creating and calling procedures, if and case statements, loops, Cursors, Functions, Triggers.

#### Unit III

**Transactions processing:** Definition , desirable properties of transactions, serial and non-serial schedules ,concept of serialazability , conflict-serializable schedules; **Concurrency Control:** Two-phase locking techniques, dealing with Deadlock and starvation, deadlock prevention protocols, basic timestamp ordering algorithm; Overview of database recovery techniques; concept of data warehousing.

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### Suggested Readings

1. Fundamentals of Database Systems,Ramez A. Elmasri, Shamkant Navathe,5<sup>th</sup> Ed(Pearson)
2. Database System Concepts By Korth, Silberschatz, Sudarshan (Mcgraw Hill)
3. An Introduction to Database Systems By Bipin C. Desai (Galgotia Publication.)
4. SQL, PL/SQL Programming By Ivan Bayross (BPB)
5. Commercial Application Development Using Oracle Developer 2000 By Ivan Bayross (BPB)

### Web Resources

1. <http://www.mysqltutorial.org/mysql-stored-procedure-tutorial.aspx>

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-202**

**Paper Name : Data Communication and Networking**

**Objective** – After successful completion of this course student will have an understanding of network, concepts transmission media and realize and compare different LAN topologies, implement and compare the performance of different Layer protocols and cyber security.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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### Unit - I

**Data Communication and Networking:** Overview, Network Types, LAN Technologies, Topologies, Models- OSI Model, TCP/IP Stack, Security

**Physical Layer:** Introduction, Impairments, Performance, Digital Transmission, modes, digital to digital, analog to digital, Analog Transmission, digital to analog, analog to analog, Transmission media, Wireless Transmission, Multiplexing, FDM, TDM, CDM, WDM,

**Switching techniques:** Circuit Switching, Packet switching, Datagram, Virtual circuit and Permanent Virtual Circuit, Connectionless and connection oriented communication, Message switching,

### Unit - II

**Data Link Layer:** Introduction, Error detection and Correction, Data Link Control: Line Discipline- Enq/Ack, Poll/Select, **Flow Control** : Stop And Wait, Sliding Window, **Error Control** : ARQ, Stop and Wait ARQ, Sliding Window ARQ.

**Network Layer:** Introduction, Network Addressing, Routing, Internetworking, Tunneling, Packet Fragmentation, Network Layer Protocols, ARP, ICMP, IPv4, IPv6

**Transport Layer:** Introduction, Function, End to end communication, Transmission Control Protocol, User Datagram Protocol

**Application Layer:** Introduction, Client-Server Model, Application Protocols, Network Services

### Unit - III

**Cyber Security:** definition, cybercrime and information security, cybercriminals, classification of cybercrime. Cyber offences: categories of cybercrime.

**Tools and methods used in cybercrime:** phishing, types of phishing, types and techniques of ID theft, password cracking, keyloggers and spywares, backdoors, steganography, DoS, SQL Injection.

**Cybercrime on mobile and wireless devices:** attacks on wireless networks, Authentication security service, attacks on mobile phones. Cyber Law, The Indian IT Act, Digital Signatures, Anti- Cybercrime Strategies, Cyberterrorism, Indian ITA 2000.

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### Suggested Readings

Masters in Computer Science (Semester System)  
Choice Based Credit System  
EXAMINATION 2021-22

1. Cyber Security by Nina Godbole & sunit Belapure
2. Data Communication and Networking By Forozan (Tata McGraw Hill)
3. Data Communication And Computer Networks By Dr. Madhulika Jain, Satish Jain (BPB)
4. William Stallings, “Data and Computer Communications”, Pearson Education, 2008.
5. A. S. Tanenbaum, “Computer Networks”, Fourth Edition, Pearson Education.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code:MCS-203**

**Paper Name : Operating System**

**Objective** – After successful completion of this course, the student will have fundamental knowledge of internal working of operating system and basic working knowledge of Linux.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credits: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

Introduction to Operating System, layered Structure, Functions, Types; Process: Concept, Process States, PCB; Threads, System calls; Process Scheduling: types of schedulers, context switch, CPU Scheduling, Pre-Emptive Scheduling, Scheduling Criteria- CPU Utilization, Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling Algorithms- FCFS, SJF, Priority Scheduling, Round Robin Scheduling, MLQ Scheduling, MLQ With Feedback.

#### Unit II

Synchronization: Critical Section Problem, Requirements for a solution to the critical section problem; Semaphores, simple solution to Readers-Writers Problem. Deadlock: Characterization, Prevention, Avoidance, Banker's Algorithm, Recovery from Deadlock. Memory Management: Physical and virtual address space, Paging, Overview of Segmentation; Virtual Memory Management: Concept, Page Replacement techniques- FIFO, LRU, Optimal

#### Unit III

Linux: features of Linux, steps of Installation, Shell and kernel, Directory structure, Users and groups, file permissions, commands- ls, cat, cd, pwd, chmod, mkdir, rm, rmdir, mv, cp, man, apt, cal, uname, history etc. ; Installing packages; Shell scripts: writing and executing a shell script, shell variables, read and expr, decision making (if else, case), for and while loops.

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### Suggested Readings

1. Operating System Principals By Abraham Silberschatz, Peter Baer Galvin (John Wiley And Sons Inc.)
2. Operating System Concepts And Design By Milan Milen Kovic (Tata Mcgraw Hill)
3. Modern Operating System Andrew S. Tanenbaum, Herbert Bos
4. Linux in easy steps, Mike McGrath, in easy steps limited
5. Unix concepts and applications , TMH, Sumitabha Das

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-204**

**Paper Name : PHP**

**Objective** – After successful completion of this course, the student will have Learn the basic concepts & techniques of php, generate an application based upon the concepts of php and will learn how to connect a php application with database.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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### Unit – I

**PHP:** Installation of PHP. **Building Blocks of PHP:** Variables, data types, Operators & Expressions, Constants, Switching, Flow, Loops. **Functions:** Meaning, Calling, Defining a function. Return value from user defined function. **Arrays:** Creating arrays, Array related functions. **Working with String, Date & Time:** Formatting String with PHP, Using Date and time Functions with PHP. Working with file and Directories.

### Unit – II

**Forms:** Creating simple input Form. Accessing Form input with user defined arrays, HTML and PHP Code on a single page. Redirecting User. Working with File Upload. Uploading & Downloading. **State management:** Using query string(URL rewriting), Using Hidden field, Using cookies, Using session. **Email:** Sending Email, Headers. **Exception Handling:** Understanding Exception and error, Try, catch, throw

### Unit – III

**Connecting to the MYSQL:** Selecting a database, Adding data to a table, Displaying returned data on Web pages, Inserting data, Deleting data, Entering and updating data, Executing multiple queries, executing stored procedures.

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### Suggested Readings

1. Teach Yourself PHP, MYSQL & Apache By Meloni, Pearson Education.
2. Open Source Development with LAMP: Using Linux, Apache, MySQL, Perl & PHP By James Lee, Pearson Education.
3. PHP: A Beginner's Guide By Vaswani, Vikram Tata Mc-Graw Hill.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code:MCS-301**

**Paper Name : Data Structures**

**Objective** – This offered course give student an insights into programming structures where data can be hold by a program during the runtime. After successful of this course, the student will be able to effectively create and use data structures in the program.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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### Unit I

**Algorithm:** Efficiency & Analysis Algorithm: Time and Space complexity of Algorithm.  
**Abstract Data Type: Linked List-** Linear, Circular, Two Way List, Basic Operation on Linked Lists, Application of Linked List.

### Unit II

**Stack :** primitive operations, stack Application- Infix, postfix, prefix and Recursion Array and Linked Representation of Stack. **Queue:** Primitive operation, Circular Queue, Priority Queue, D-queue, Array and Linked Representation of Queue.

### Unit III

**Trees :** Basic terminology, **Binary Tree :** Representation as Array and link List, Basic operation, **Tree Traversal :** Inorder, Preorder, Postorder, Application of Binary Tree. B-tree, Height Balance Tree (AVL Tree) **Graph :** Basic Terminology, Directed, Undirected, Weighted, Representation of Graphs, **Graph Traversal :** Depth First Traversal, Breadth First Search.

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### Suggested Readings

1. Expert Data Structure with 'C' By R.B Patel (Khana Book Publishing Co.(P))
2. Data structure By Lipschutz (Tata McGraw Hill)
3. Data Structure By Yashvant Kanitkar (BPB)
4. An Introduction to Data Structures with Applications By Jean-Paul Tremblay, Paul G.Sarerson (Tata McGraw Hill)
5. Data Structure Using C and C++ By Yedidyah Langsam, Moshe J.Augenstein, Arora M. Tenenbaum (Prentice- Hall India)

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code:MCS-302(a)**

**Paper Name : Java**

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**Objective** – This course is offering the basic concepts & techniques of OOPs with java, multithreading, exceptions, applets and students will able to generate an application based upon the concepts of java.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

**Introduction to java:** evolution, features, comparison with C and C++; Java program structure; tokens, keywords, constants, variables, data types, type casting, statements, Operators and Expression; Conditional Statements and Loop Statements. **Class:** syntax, instance variable, class variables, methods, constructors, overloading.

#### Unit II

**Inheritance:** types of inheritance, use of super, method overriding, final class, abstract class, wrapper classes.

Arrays, Strings and Vectors, Packages and Interfaces, visibility controls

#### Unit III

**Errors and Exceptions:** Types of errors, Exception classes, Exception handling in java, use of try, catch, finally, throw and throws. Taking user input, Command line arguments.

**Multithreaded Programming:** Creating Threads, Life cycle of thread, Thread priority, Thread synchronization, Inter-thread communication, Implementing the Runnable Interface.

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### Suggested Readings

1. The Complete reference Java Ninth Edition By Herbert Schildt (Tata McGraw Hill)
2. Beginning Programming with Java For Dummies by Burd, For Dummies; 3 edition
3. Java: A Beginner's Guide, Sixth Edition: A Beginner's Guide by Herbert Schildt, McGraw-Hill Osborne Media Programming in JAVA By E. Balagurusamy (TMH)
4. JAVA 2 programming Black Book By Steven Holzner et al. (Dreamtech Press)
5. Programming in JAVA By E. Balagurusamy (TMH)

**Paper Code:MCS-302(b)**

**Paper Name : Python**

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# Masters in Computer Science (Semester System)

## Choice Based Credit System

### EXAMINATION 2021-22

**Objective** – After successful completion of this course, the student will have the fundamental knowledge of programming in Python and various constructs.

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#### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

Basics: Python Interpreter, writing code in Jupyter Notebook, Indentation, comments, importing a module, binary operators, standard scalar data types, type casting, if-else statements, loops(while, for), pass, range, ternary expressions. Data Structures and Sequences: Tuples, Lists and slicing, Built-in Sequence functions, Dictionary, Sets; List, Set, and Dict Comprehensions.

#### Unit II

Functions: Namespaces, Scope, and Local Functions; Returning Multiple Values, Anonymous (Lambda) Functions, Partial Argument Application, Generators, Errors and Exception handling. Basic File Handling. Objects and Methods in Python. NumPy: creating N-dimensional arrays, arithmetic with NumPy arrays, basic indexing and slicing, Psuedorandom number generation.

#### Unit III

Pandas: Overview of Series and DataFrames, reading data from csv file, DataFrame operations- working with data using functions like head, tail, info, shape, reshape, columns, isnull, dropna, mean, sum, describe, value\_counts, corr, loc, iloc, apply. Matplotlib- plotting basic figures, subplots, line plots, bar plots, histograms, scatter plots. Overview of Scikit-learn, SciPy, networkx. Applications of python.

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#### Suggested Readings

1. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and Ipython, by Wes McKinney, O'Reilly Media, 2017
2. Python All-in-One for Dummies, by John Shovic and Alan Simpson, John Wiley & Sons, Inc., 2019
3. Programming in Python 3: A Complete Introduction to the Python Language, Mark Summerfield, Pearson.

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4. Swaroop, C. H. (2003). A Byte of Python. Python Tutorial.
5. Introduction to Computation and Programming Using Python. By John V. Guttag, MIT Press.
6. Learning Python , Mark Lutz, David Ascher, O'Reilly
7. T. Budd, Exploring Python, TMH, 1st Ed, 2011

**Web Resources**

1. <https://www.learnpython.org/>
2. <https://nptel.ac.in/courses/106/106/106106212/>
3. <http://greenteapress.com/thinkpython/thinkpython.pdf>
4. Python tutorial: <https://docs.python.org/3/tutorial/index.html>

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-303(a)**

**Paper Name : Software Engineering & Research Methodology**

**Objective** – After completing this course the student will have an understanding of concepts of software engineering and Research Methodology

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

**Note:** Scientific Calculator may be allowed in end-semester examination.

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### Unit I

**Software** : Software Characteristics, Software Process, Process Characteristics, **Software Process Model** : Linear Sequential Model, Prototyping Model, Spiral Model, Software Quality, McCall's Quality Factors, **Software Requirement Analysis and Specification (SRS)** : Need Characteristics and Components.

### Unit II

**Planning a Software Project:** COCOMO Model, Project Monitoring Plan and Risk Management. **Design Principle** : Abstraction, Modularity, Cohesion and Coupling, **Software Management** : Size Oriented Matrices, Function Oriented Matrices. **Testing** : Testing Fundamental, Functional Testing (Black Box), Structural Testing (White Box), Alpha And Beta Testing, **Testing Process** : Comparison of Different Testing, Level of Testing.

### Unit III

Research Methodology: Meaning of Research, Objective of Research, Types of Research, Research Approaches, Significance of research, Research Methods versus Methodology, Research Process, Criteria of Good Research, , What is Research Problem, Selecting the problem, Necessity of defining the problem, Technique involved in defining a problem.

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### Suggested Readings

1. Software Engineering: A Practitioner's Approach By Roger S. Pressman, McGraw Hill.
2. Software Engineering: A Precise Approach by Pankaj Jalote, Wiley Precise textbook Series
3. Research Methodology Methods and Techniques by C. R. Kothari, New Age International Publisher

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-303(b)**

**Paper Name : Artificial Intelligence**

**Objective** – The proposed course offer students the idea various aspects and applications of artificial intelligence.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

Definition, History, Agents and environment, Defining the problem as a state and space search, What is Intelligence? Types of Intelligence, Difference between Human and Machine Intelligence, The Structure of Intelligent Agents. Solving problems by searching: Uninformed search strategies- Brute-Force, Breadth-First, Uniform-cost search Depth-First, Depth-limited search, depth-first search, Bidirectional search. Informed (heuristic) search strategies- Greedy best-first search, A\*, AO\* Memory-bounded heuristic search.

#### Unit II

Heuristic functions, local search algorithms- Hill-climbing search, Simulated annealing, Local beam search. Knowledge Based System: Knowledge, Procedure V/S Declarative Knowledge, Knowledge Representation: Using Procedural and Predicate Logic, Inference in First order logic: Unification and Lifting, Forward Chaining, Backward Chaining, Resolution. Rule based System, Frames, Frames, Scripts, and Semantic Nets.

#### Unit III

Probabilistic Reasoning, Probability and Bayes Theorem, represent knowledge in uncertain domain, Certainty factors, Bayesian Networks, Dempster-Shafer theory, introduction to Fuzzy logic. Learning: types of learning, decision trees. **Expert System: types, architecture. Introduction to Artificial Neural Networks, Reinforcement learning, Natural Language Processing, Pattern Recognition and Perception.**

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### Suggested Readings

1. Artificial Intelligence By Rich And Knight (Tata McGraw Hill)
2. Introduction to Artificial Intelligence and Expert Systems By Patterson (Prentice-Hall India)
3. Artificial Intelligence A Modern Approach by Russell and Norvig, Prentice Hall

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2021-22**

**Paper Code: MCS-305(a)**

**Paper Name : Data Analysis Using R**

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**Objective** - After successful completion of this course, the student will have working knowledge of R and he/she will be able to do elementary data analysis using R.

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**Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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**Unit I**

Foundations for data analysis-matrices, notion of probability, concept of random variables and various distributions, mean, variance, covariance, normal distributions, overview of sampling, hypothesis testing, confidence interval, concept of optimization.

**Unit II**

installation of R, data editing, use of R as a calculator; functions and assignments. matrix operations, logical operators, Conditional executions and loops, data management with sequences, repeats, sorting and ordering, lists, vector indexing, factors; display and formatting of strings.

**Unit III**

Working with data frames, Importing data files; Graphics and plots; basic statistical functions for central tendency, variation, boxplots, skewness and kurtosis, correlations; overview of using R functions for a simple hypothesis testing, Applications of R.

**Suggested Readings:**

1. Hands-On Programming with R, Garrett Golemund, O'Reilly Publishers.
2. R for Beginner - [https://cran.r-project.org/doc/contrib/Paradis-rdebuts\\_en.pdf](https://cran.r-project.org/doc/contrib/Paradis-rdebuts_en.pdf)
3. A Learning Guide to R - [https://www.westernsydney.edu.au/\\_data/assets/pdf\\_file/0011/830909/Rnotes\\_20180905\\_web.pdf](https://www.westernsydney.edu.au/_data/assets/pdf_file/0011/830909/Rnotes_20180905_web.pdf)
4. Applied Statistics and Probability For Engineers – by Douglas Montgomery, John Wiley & Sons Inc.
5. Research Methodology : Methods And Techniques, C.R. Kothari, New Age International Publishers.
6. Design and Analysis of Experiments (Wiley India), Montgomery, Douglas C.

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2021-22**

**Paper Code: MCS-305(b)**

**Paper Name : LaTeX: a document preparation system**

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**Objective** - After successful completion of this course, the student will be able to create a polished document with high typographical quality for research papers/articles.

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**Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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**Unit I**

Installation of the software LaTeX, Structure of LaTeX documents; Special Characters, Producing equations, Matrices, Tables, itemised lists, hypertext links ;Page Layout –Title, Abstract , Chapters, Sections, References.

**Unit II**

Including graphics, images, floating bodies; Producing basic mathematical graphics like line segments, arrows, circles, ovals, Generating index and bibliography, creating PDF file.

**Unit III**

Adding a new command; generating spaces ,colored text ; Writing a sample resume, question paper , article/ research paper; Creating presentation using beamer.

**Suggested Readings:**

1. LaTeX: A Document Preparation System, By Leslie Lamport, Addison- Wesley.
2. LaTeX Beginner's Guide , by Stefan Kottwitz , Packt Publishing Limited
3. Tobias Oetiker, Hubert Partl, Irene Hyna and Elisabeth Schegle: The Not So Short Introduction to LaTeX 2e, <https://tobi.oetiker.ch/lshort/lshort-a5book.pdf>, 2014.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code:MCS-401(a)**

**Paper Name : Data Mining**

**Objective** – After successful completion of this course, the student will have the basic knowledge of concepts including classification, association and clustering.

---

### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

**Note:** Scientific Calculator may be allowed in end-semester examination.

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### Unit I

Data mining Introduction: Definition, Data mining tasks, Data mining as a step of Knowledge discovery process, Applications of Data mining; Data objects and types of attributes, Recalling mean, median ,mode and weighted arithmetic mean, Data quality , overview of data preprocessing.

### Unit II

Classification analysis- definition, Overview of various classification techniques; Decision tree induction- working, examples ,specifying attribute test conditions , Measures of node impurity, measures for selecting best split; Evaluating the performance of a classifier- Holdout method, Random subsampling , cross-validation, Bootstrap.

### Unit III

Association analysis: support, confidence, association rules, Frequent Item sets; Frequent itemset generation - Apriori principle , Apriori algorithm and examples, FP growth algorithm and examples; Closed and maximal frequent itemsets. Cluster analysis: Definition , overview of basic clustering methods, Density based methods-DBSCAN.

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### Suggested Readings

1. Data Mining: Concepts and Techniques, 3rd edition, Jiawei Han and Micheline Kamber
2. Introduction to Data Mining, Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Pearson Education.
3. Data Mining: A Tutorial Based Primer, Richard Roiger, Michael Geatz, Pearson Education 2003.
4. Introduction to Data Mining with Case Studies, G.K. Gupta, PHI 2006
5. Insight into Data mining: Theory and Practice, Soman K. P., DiwakarShyam, Ajay V., PHI 2006
6. Data Mining:: Practical Machine Learning Tools and Techniques (Morgan Kaufmann Series in Data Management Systems) by Witten, Frank, Hall

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-401(b)**

**Paper Name : Computer Graphics & Multimedia**

**Objective** – After successful completion of this course, the student will have the fundamental knowledge of computer graphics, multimedia and working knowledge of Blender tool.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

**Note:** Non-Scientific Calculator may be allowed in end-semester examination.

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#### Unit I

Basic elements of Computer Graphics, Graphics display devices, Applications of Computer Graphics, Raster and random scan; Color Models :RGB, CMY, HSV; Graphics Standard : OpenGL; Scan Conversion: DDA line algorithm, Mid-point circle Algorithm. 2D Transformation: Translation, Rotation, Scaling, Homogenous Co-ordinates and Matrix Representation of 2D Transformation, Composite Transformation.

#### Unit II

3D Graphics: Matrix Representation of 3D transformations, Translation, Rotation, Scaling, Composite Transformation. Overview of concepts: Clipping, orthographic and parallel projection, hidden surface removal, lighting, transparency, modelling and texturing, rendering; Animations: Principles of animations, keyframing, concept of 2D and 3D animation.

#### Unit III

Blender: GUI Interface, Selecting, rotating and Translating Objects, Using Snap to move objects precisely, Creating mesh primitives and extrusions, Subdividing meshes, Creating a simple creature, Joining mesh objects and stitching vertices, Organizing a scene with layers, groups, and hierarchies, Assigning glossy and reflective materials to objects, Creating bump maps, Creating sky and ambient light, Understanding ambient occlusion, Adding motion blur and depth of field, Editing animation in the Graph Editor, Building and animating a simple character.

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#### Suggested Readings

1. Computer Graphics (Principles and Practice) by Foley, van Dam, Feiner and Hughes, Addison Wesley (Indian Edition)
2. Computer Graphics by D Hearn and P M Baker, Printice Hall of India (Indian Edition).
3. Mathematical Elements for Computer Graphics by D F Roger.
4. Introduction to Computer Graphics By Krihsnamurthy N (Tata McGraw Hill)
5. Theory and Problems of Computer Graphics (Schaum's Outline) By Zhigang X. and Plastock Ra. (Tata McGraw Hill)

#### Web Resources

1. <https://www.cs.duke.edu/brd/Teaching/Previous/Animation/animation.html>
2. [http://zikky.lecturer.pens.ac.id/Produksi 3D untuk Designer/Beginning Blender-book.pdf](http://zikky.lecturer.pens.ac.id/Produksi%203D%20untuk%20Designer/Beginning%20Blender-book.pdf)
3. <http://www.blenderhd.com/wp-content/uploads/2015/08/BeginnersGuideToBlender.pdf>
4. [https://people.sc.fsu.edu/~gerlebacher/gd/blender/blender/blender noob to pro.pdf](https://people.sc.fsu.edu/~gerlebacher/gd/blender/blender/blender%20noob%20to%20pro.pdf)

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5. [http://download.blender.org/documentation/pdf/John M Blain - An Introduction To Blender 3D - A Book For Beginners \(2011\).pdf](http://download.blender.org/documentation/pdf/John%20M%20Blain%20-%20An%20Introduction%20To%20Blender%203D%20-%20A%20Book%20For%20Beginners%20(2011).pdf)
6. [http://www.cdschools.org/cms/lib04/PA09000075/Centricity/Domain/81/BlenderBasics\\_4thEdition2011.pdf](http://www.cdschools.org/cms/lib04/PA09000075/Centricity/Domain/81/BlenderBasics_4thEdition2011.pdf)
7. <https://docs.blender.org/manual/en/dev/index.html>

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-402(a)**

**Paper Name : Android Programming**

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**Objective** – This offered course give students the basic concepts & techniques of Android Programming with java and they will able to generate a mobile app based upon the concepts of android.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit -I

**Introduction:** What is Android?, Android Architecture, Setting Android Environment, Android SDK Manager & required Packages, Using Android Studio, Android Virtual Device(AVD), Creating First Android Application, Package Structure, Introduction to Gradle, Running the Application, Views, Layouts and more.

#### Unit – II

**Introduction to Views:** TextView, EditText View, RadioButton and CheckBox View, Button View, ImageView and ImageButton View, Toast, Notifications.

**Introduction to Layouts/ViewGroups:** Linear Layout, Relative Layout, Tabular Layout, Hierarchical Layout Arrangements, Adapter and Adapter View, Using ListView and GridView, SQLite Database.

#### Unit – III

**Spinner in Android, Working with Spinners, Margin and Padding, Working with EditText and TextView, RadioGroup, RadioButton and CheckBox, AutoCompleteTextView in Android, Android Core and Projects.**

**Location Based Services: Sending Email, Sending SMS, Phone Calls**

**Activity in Android, Intents in Android, Introduction to Fragments, Working with Fragments**

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### Suggested Readings

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2021-22**

1. Android Programming for Beginners by John Horton Publisher: Packt Publishing
2. Learn Java for Android Development (2nd edition) by Jeff Friesen Publisher: Apress
3. Android application development for java programmers. By James C. Sheusi.  
Publisher: Cengage Learning, 2013.
4. Beginning Android Programming with Android Studio, Fourth Edition by Jerome F. DiMarzio Publisher: John Wiley & Sons
5. Android Programming: The Big Nerd Ranch Guide by Kristin Marsicano , Chris Stewart , Bill Phillips Publisher: Big Nerd Ranch Guides

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code:MCS-402(b)**

**Paper Name : Advanced Web Programming**

**Objective** – This offered course give students the basic concepts & techniques of OOPs with C# and make the able to generate a web application based upon the concepts of ASP.NET with C# and database connectivity.

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consists of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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### Unit -I

**Basic of the .NET framework:** .NET Architecture, managed code, assemblies, clr, execution of assemblies code, il, jit, net framework class library, common type system, common language specification. Overview C#, similarities and differences from JAVA, Structure of C# program. Language features- Type system, boxing and Unboxing, flow controls, Classes, Properties, Indexers, Constructors, Inheritance, Interfaces, Delegates.

### Unit -II

Understanding ASP.NET Controls: Web forms, Buttons, Text Box, Labels, Checkbox, Radio Buttons, List Box etc. Running a web Application, creating a multiform web project, Form Validation Controls- Required Field, Compare, Range. Calendar Control, Ad Rotator Control, State Management-View State, Session State, Application State.

### Unit -III

Architecture Of ADO.NET, Connected and Disconnected Database, Create Connection Using ADO.NET Object Model, Connection Class, Command Class, DataReader Class, Data adapter Class, Dataset Class. Display Data on Bound Controls and Gridview. Database Accessing on Web Applications: Insert records in database, delete and update records from database, Display a particular record and all records on web form.

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### Suggested Readings

1. ASP.NET 2.0 Black Book By RudrakshBatra, CharulShukla (Dream Tech Press)
2. ASP. NET Bible By MridulaParihar and et al. (Hungry Minds, New York)
3. Andrew Troelsen – “C# and the .Net Platform” – Apress – 2001.(Unit I and II)
4. Alex Homer et. al. – “Professional ASP .NET 1.1” – Wiley-dreamtech India Pvt. Ltd. – 2004.
5. ASP.NET Developer’s Guide By G Buezek (TMH)
6. .NET Framework Essentials 3<sup>rd</sup> Edition (O’Reilly)

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-403(a)**

**Paper Name : Cloud Computing**

**Objective** – After completing this course the student will have an understanding of key aspects of cloud computing

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

Introduction to Cloud Computing, Services provided by cloud-SaaS, PaaS, IaaS, DaaS etc. Functioning of cloud computing, Advantages, Disadvantages, Applications, Cloud Service Providers- Amazon AWS, Google App Engine, Microsoft, VMware. Virtualization concepts, Objectives, Types of Virtualization & its benefits, Introduction to Various Virtualization OS (Hypervisor). Virtualization for Enterprises

#### Unit II

Designing and Implementing a Data Center-Based Cloud, Industry and International Standards for Cloud Implementation, Building private cloud using open source tools, Integration of Public and Private Cloud. Private, Public & Hybrid Clouds, their Advantages & Disadvantages, On Premises and Off Premises Cloud services, installing a Cloud service.

#### Unit III

Cloud Security issues - Infrastructure Security, Network level security, Host level security, Application level security, Data privacy and security Issues, Jurisdictional issues raised by Data location, Access Control, Trust, Reputation, Risk and Authentication in cloud computing

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### Suggested Readings

1. Cloud Computing Concepts Technology and Architecture by Thomas Erl, Prentice Hall
2. Cloud Computing principles and paradigms by Rajkumar Buyya, James Broberg and Andrzej Goscinski, John Wiley and Sons, Inc. Publication
3. Cloud Computing Theory and Practice by Dan C. Marinescu, Morgan Kaufman Publication

# Masters in Computer Science (Semester System)

## Choice Based Credit System

EXAMINATION 2021-22

**Paper Code: MCS-403(b)**

**Paper Name : Internet of Things**

**Objective** – The objective of this course is to introduce basic concepts of IOT and its applications

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Credit: 5

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

M2M to IoT : Introduction, Market Perspective, Architectural Overview. M2M to IOT Technology- Devices and gateways, Local and wide area networking, Data management, Business processes in IoT, IoT analytics, Knowledge management, IOT Architecture, Architecture Reference Model, Real world design constraints.

#### Unit II

IOT Use Cases- Asset Management, **Industrial Automation**- Service-oriented architecture-based device integration, SOCRADES: realizing the enterprise integrated Web of Things, IMC-AESOP: from the Web of Things to the Cloud of Things, **Commercial Building Automation**- Introduction, Case study: phase one-commercial building automation today, Case study: phase two- commercial building automation in the future.

#### Unit III

Internet of Things Privacy, Security and Governance Introduction, Overview of Governance, Privacy and Security Issues, Contribution from FP7 Projects, Security, IOT and Smart Cities, Privacy and Trust in IoT-Data-Platforms for Smart Cities, First Steps Towards a Secure Platform, Smartie Approach. Data Aggregation for the IoT in Smart Cities, Security

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### Suggested Readings

1. From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence by Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, 1st Edition, Academic Press, 2014.
2. Internet of Things (A Hands-on-Approach) by Vijay Madisetti and Arshdeep Bahga, 1st Edition, VPT, 2014.
3. Rethinking the Internet of Things: A Scalable Approach to Connecting Everything by Francis daCosta, 1st Edition, Apress Publications, 2013
4. Designing the Internet of Things , Adrian McEwen (Author), Hakim Cassimally
5. Internet of Things: Converging Technologies for Smart Environments and Integrated Ecosystems by Dr. Ovidiu Vermesan, Dr. Peter Friess, River Publishers
6. Internet of Things (A Hands-on-Approach) , Vijay Madisetti , Arshdeep Bahga
7. Building the internet of things with ipv6 and mipv6, The Evolving World of M2M Communications, Daniel Minoli John Wiley & Sons

Masters in Computer Science (Semester System)  
Choice Based Credit System  
EXAMINATION 2021-22

**Paper Code: MCS-405**

**Paper Name : Project**

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**Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

1. Marks distribution for External Project report of 40 marks is as under
  - a. External Evaluation-
    - i. Project Dissertation                      25 marks
    - ii. Presentation                                10 marks
    - iii. External Viva Voce                      5 marks
  - b. Internal Evaluation- Dissertation        10 Marks

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**Practical Training and Project Work:**

1. Project Work may be done individually or in groups in case of bigger projects. However if project is done in group each student must be given a responsibility for a distinct module and care should be taken to monitor the individual student.
2. Project Work can be carried out in the college or outside with prior permission of college.
3. The Student must submit a synopsis of the project report to the college for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of draft project report the student should make the final copies.
4. **Project Report should be hand written.**

**Submission Copy:**

The Student should submit spiral bound copy of the project report.

**Format of the Project:**

1. **Paper:**  
The Report shall be typed on White Paper of A4 size.
2. **Final Submission:**  
The Report to be submitted must be original.
3. **Typing:**  
**Font:-** Times New Roman  
**Heading:-** 16 pt., Bold  
**Subheading:-** 14 pt, Bold  
**Content:-** 12 pt.  
**Line Spacing:-** 1.5 line.  
**Typing Side :-** One Side  
**Font Color:-** Black.
4. **Margins:**  
The typing must be done in the following margin:  
**Left :** 0.75”  
**Right:** 0.75”  
**Top:** 1”

**Masters in Computer Science (Semester System)**  
**Choice Based Credit System**  
**EXAMINATION 2021-22**

**Bottom:** 1”

**Left Gutter:** 0.5”

**5. Binding:**

The report shall be Spiral Bound.

**6. Title Cover:**

The Title cover should contain the following details:

**Top:** Project Title in block capitals of 16pt.

**Centre:** Name of project developer’s and Guide name.

**Bottom:** Name of the university, Year of submission all in block capitals of 14pt letters on separate lines with proper spacing and centering.

**7. Blank sheets:**

At the beginning and end of the report, two white blank papers should be provided, one for the Purpose of Binding and other to be left blank.

**8. Content:**

**I).** Acknowledgement

**II).** Institute/College/Organization certificate where the project is being developed.

**III).** Table of contents

**IV).** A brief overview of project

**V).** Profiles of problem assigned

**VI).** Study of Existing System

**VII).** System Requirement

**VIII).** Project plan

○ Team Structure

○ Development Schedule

○ Programming language and Development Tools

**IX).** Requirement Specification

**X).** Design

○ Detailed DFD’s and Structure Diagram

○ Data structure, Database and File Specification

**XI).** Project Legacy

● Current Status of project

● Remaining Areas of concern

● Technical and Managerial Lessons Learnt

● Future Recommendations

○ Nomenclature and Abbreviations.

○ Bibliography

○ Source Code

# SCHEME OF EXAMINATION AND SYLLABUS

**M.Sc.(Computer Science) Lateral Entry**  
**Session 2020-21**



**@M.G.S. UNIVERSITY, BIKANER**

## SCHEME OF EXAMINATION

### 1. ELIGIBILITY FOR ADMISSION

PGDCA from the MGS University and affiliated colleges under the jurisdiction of the university shall be eligible for admission to the M.Sc.(CS) LE Course. (Relaxation to SC/ST etc. as per State Government/University Admission Rules)

### 2. PASS CRITERIA

The examinee has to secure at least 36% marks to pass the examination and 25% marks in each individual paper. Even if he/she will be failed in one paper/course, he/she will be declared fail. She/he however should be allowed one more chance to take the examination as Ex-student. In such a case, the marks of practical/ tutorials etc shall be carried forward for the said purpose.

#### CLASSIFICATION OF SUCCESSFUL CANDIDATE

| <b>Division</b> | <b>Total Marks</b>      |
|-----------------|-------------------------|
| First Division  | 60% and above           |
| Second Division | Above 48% and below 60% |
| Pass            | Above 36% and below 48% |
| Fail            | Below 36%               |

### 3. INSTRUCTIONS TO PAPER SETTER

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

### 4. WORKLOAD

At least 3 classes for theory class and 3 classes for practical lab should be assigned per week for each paper.

### 5. INSTRUCTIONS FOT PRACTICAL EXAMINATION

Marks Distribution for Practical Exam -

Each practical exam is to be conducted by two examiners one External and one Internal. External examiner should be senior lecturer from jurisdiction of MGS University. External examiner will prepare question paper of Practical Examination. Students have to perform exercise on computer. Exercise must be written in answer books in proper documentation. Marks distribution for Practical of 50 marks is as under

- |  |          |
|--|----------|
| i) Three Exercise of 10 marks each<br>(Logic 04, Execution 03, Documentation 03) | 30 Marks |
| ii) Viva-Voce  | 10 Marks |
| iii) Laboratory Exercise File  | 10 marks |

Marks distribution for Project of 100 marks is as under

- |  |          |
|--|----------|
| i) Project Dissertation and Presentation | 75 marks |
| ii) External Viva Voce                   | 25 marks |

## Teaching and Examination scheme

| Paper Code                                      | Paper Name                          | Lect/<br>week | Tuto/<br>week | Exam<br>Hours | Max.<br>Marks | Min. Passing<br>Marks            |
|---|-------------------------------------|---------------|---------------|---------------|---------------|----------------------------------|
| MCSLE-101                                       | Mathematics for<br>Computer Science | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)               |
| MCSLE-102                                       | Software Engineering                | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)               |
| MSCLE-103                                       | Data Structures                     | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)               |
| MCSLE-104                                       | Java                                | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)               |
| MCSLE-105                                       | Internet Programming                | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)               |
| MCSLE-106                                       | Project                             | 3             | 1             | 3             | 100           | <b>25</b><br>(25%)               |
| <b>Total of Theory Papers</b>                   |                                     |               |               |               | <b>350</b>    | <b>126</b><br>(36%<br>aggregate) |
| <b>Practical Papers</b>                         |                                     |               |               |               |               |                                  |
| PGDCA107  | DS & Java Lab                       | 3             | -             | 3             | 50            | <b>18</b><br>(25%)               |
| PGDCA 108                                       | Internet Programming<br>Lab         | 3             | -             | 3             | 50            | <b>18</b><br>(25%)               |
| <b>Total of Practical Papers</b>                |                                     |               |               |               | <b>100</b>    | <b>36</b><br>(36% aggregate)     |
| <b>Grand Total (Theory 350 + Practical 100)</b> |                                     |               |               |               | <b>450</b>    | <b>162</b><br>(36% aggregate)    |

**Paper Code: MCSLE -101**

**Paper Name : Mathematics for Computer Science**

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

**Note:** Non-Scientific Calculator is allowed to be used in examination.

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#### Unit – I

Sets, different types of sets, set operations; Basic Counting Principles, Pigeonhole Principle, Binomial Coefficients, Binomial Theorem, Permutations, Combinations

#### Unit - II

Matrices: addition, multiplication; Vectors: Position vector, addition, subtraction and products of vectors.

#### Unit -III

Mathematical Induction; Logic: Propositions and logical operations, Conditional statements, Tautologies and Contradictions, Logical Equivalence, quantifiers.

#### Unit - IV

Relations: Representation of Relations, Properties of relations, transitive closure; Ordered Sets: poset, Properties, Hasse Diagram, Extremal elements of posets

#### Unit V

Functions: Types of Functions, Asymptotic notations; Co-ordinate Systems: representation of points, straight lines, standard equation of circles.

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### Suggested Readings

1. Discrete Mathematics and its applications by K.H. Rosen, seventh edition
2. Discrete Mathematical Structures by Kolman, Busby and Ross, Sixth Edition, PHI.
3. Schaum's Outline Of Theory and Problems of Discrete Mathematics, Third Edition. SEYMOUR LIPSCHUTZ
4. NCERT Mathematics textbook for class XI and XII
5. Elements of Discrete Mathematics, TMH, C L Liu
6. Foundation Mathematics for Computer Science: A Visual Approach, John Vince, Springer
7. Calculus and Analytic Geometry, George B. Thomas and Ross L. Finney, Addison Wesley

**Paper Code: MCSLE -102**

**Paper Name : Software Engineering**

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### **Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

**Note:** Scientific Calculator is allowed to be used in the examination.

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#### **Unit I**

**Software Engineering:** Software, **Software Process,** Process Characteristics, Software Process Model- Linear Sequential Model, Prototyping Model, Spiral Model. **Software Quality,** McCall's Quality Factors. **Software Requirement Analysis and Specification (SRS):** Need, Characteristics and Components.

#### **Unit II**

**Cost Estimation:** COCOMO Model, **Designing Concepts:** Design Principles, Module level concepts- Cohesion and Coupling, Design notations and specifications, Verification, Metrics.

#### **Unit III**

**Object Oriented Design:** Concepts, Design Notation and Specification, Design methodology, metrics. **Debugging Process:** Information Gathering, Fault Isolation, Fault Confirmation, Documentation, Fixing fault isolation.

#### **Unit IV**

**Testing:** Testing Fundamental, Functional Testing (Black Box), Structural Testing (White Box), Alpha And Beta Testing, Testing Object Oriented Programs, Testing Process: Comparison of Different Testing, Level of Testing. Project management for special classes of software projects: Using CASE tools, CBSE.

#### **Unit – V**

**UML:** An overview of UML- UML notations, UML Class diagrams- association, multiplicity, generalization, aggregation, interfaces.

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### **Suggested Readings**

1. Software Engineering: A Practitioner's Approach by Roger S. Pressman(McGraw Hill)
2. An Integrated Approach to Software Engineering By PankajJalote, (Narosa Publishing House)
3. Object-Oriented SoftwareEngineering: Practical Software Development using UML and Java By Timothy C. Lethbridge, Robert Laganière (McGraw Hill)

4. Object-Oriented Software Engineering Using UML, Patterns, and Java By Bernd Bruegge & Allen H. Dutoit (Prentice Hall)

**Paper Code: MCSLE -103**

**Paper Name : Data Structures**

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

**Algorithm:** Efficiency & Analysis Algorithm: Time and Space complexity of Algorithm.  
**Abstract Data Type: Linked List-** Linear, Circular, Two Way List, Basic Operation on Linked Lists, Application of Linked List.

#### Unit II

**Stack :** primitive operations, stack Application- Infix, postfix, prefix and Recursion Array and Linked Representation of Stack. **Queue:** Primitive operation, Circular Queue, Priority Queue, D-queue, Array and Linked Representation of Queue.

#### Unit III

**Trees :** Basic terminology, **Binary Tree :** Representation as Array and link List, Basic operation, **Tree Traversal :** Inorder, Preorder, Postorder, Application of Binary Tree. B-tree, Height Balance Tree (AVL Tree)

#### Unit IV

**Graph :** Basic Terminology, Directed, Undirected, Weighted, Representation of Graphs, **Graph Traversal :** Depth First Traversal, Breadth First Search.

#### Unit V

String handling, String class, Templates, Searching and Sorting: Searching: Linear Search, Binary Search. Sorting: Insertion Sort, Selection Sort, Quick Sort, Bubble Sort, Heap Sort, Shell Sort, Merge sort, Radix Sort, Counting Sort, Bucket Sort.

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### Suggested Readings

1. Expert Data Structure with 'C' By R.B Patel (Khana Book Publishing Co.(P))
2. Data structure By Lipschutz (Tata McGraw Hill)
3. Data Structure By Yashvant Kanitkar (BPB)
4. An Introduction to Data Structures with Applications By Jean-Paul Tremblay, Paul G.Sarerson (Tata McGraw Hill)
5. Data Structure Using C and C++ By Yedidyah Langsam, Moshe J.Augenstein, Arora M. Tenenbaum (Prentice- Hall India)

**Paper Code: MCSLE -104**

**Paper Name : Java**

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

**Introduction to java:** evolution, features, comparison with C and C++; Java program structure; tokens, keywords, constants, variables, data types, type casting, statements, Operators and Expression; Conditional Statements and Loop Statements. **Class:** syntax, instance variable, class variables, methods, constructors, overloading of constructors and methods

#### Unit II

**Inheritance:** types of inheritance, use of super, method overriding, final class, abstract class, wrapper classes. Arrays, Strings and Vectors, Packages and Interfaces, visibility controls

#### Unit III

**Errors and Exceptions:** Types of errors, Exception classes, Exception handling in java, use of try, catch, finally, throw and throws. Taking user input, Command line arguments

#### Unit IV

**Multithreaded Programming:** Creating Threads, Life cycle of thread, Thread priority, Thread synchronization, Inter-thread communication, Implementing the Runnable Interface

#### Unit V

**Swings :** Classes, Working With JFrame Windows, Working With Graphics, Working With Colour, Adding And Removing Controls, Responding To Controls, Labels, Buttons, Checkbox, Checkbox Group, Choice Control, Lists, Text Field, Text Area. Menus, Dialog Box, Handling Events.

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### Suggested Readings

1. The Complete reference Java Ninth Edition By Herbert Schildt (Tata McGraw Hill)
2. Core Java Volume I--Fundamentals (9th Edition) by Cay S. Horstmann, Gary Cornell, Prentice Hall
3. Java: A Beginner's Guide, Sixth Edition: A Beginner's Guide by Herbert Schildt, McGraw-Hill Osborne Media
4. Programming in JAVA By E. Balagurusamy (TMH)
5. JAVA 2 programming Black Book By Steven Holzner et al. (Dreamtech Press)
6. Horstmann, Cay S. and Gary Cornell, "Core Java 2: Fundamentals Vol. 1"

**Paper Code: MCSLE -105**

**Paper Name : Internet Programming**

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

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#### Unit I

Internet Basics: Evolution of Internet, Basic internet terms and applications. ISP, Anatomy of an e-mail Message, basic of sending and receiving, E-mail Protocol; Mailing List- Subscribing, Unsubscribing. Introduction to World Wide Web and its work, Web Browsers, Search Engine, Downloading, Hyper Text Transfer Protocol (HTTP), URL, Web Servers, FTP, Web publishing-Domain Name Registration, Space on Host Server for Web Site, Maintain and Updating.

#### Unit - II

HTML: Elements of HTML & Syntax, Comments, Headings, Paragraph, Span, Pre Tags, Backgrounds, Formatting tags, Images, Hyperlinks, div tag, List Type and its Tags, Table Layout, div, frame, Use of Forms in Web Pages.

#### Unit III

CSS: Introduction to Cascading Style Sheets, Types of Style Sheets (Inline, Internal and External), using Id and Classes, CSS properties: Background Properties, Box Model Properties, Margin, Padding, List Properties, Border Properties, Positioning Properties,

#### Unit - IV

**Java Script:** Introduction to Client Side Scripting, Introduction to Java Script, Comments, Variables in JS, Global Variables, Data types, Operators in JS, Conditions Statements (If, If Else, Switch), Java Script Loops (For Loop, While Loop, Do While Loop),

#### Unit V

JS Popup Boxes (Alert, Prompt, Confirm), JS Events, Onload, Onunload, Onsubmit, OnFocus, Onchange Event, Onblur Event, Onmouseover, Onclick, Ondblclick Events, JS Arrays, Working with Arrays, JS Objects, Window object, Document object, JS Functions, getElementById, innerHTML property, innerText property, form validation, email validation.

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#### Suggested Readings

1. Thomas A. Powell , "HTML: The Complete Reference", Osborne/McGraw-Hill
2. Deitel, Deitel and Nieto : Internet & WWW. How to program, 2<sup>nd</sup> Edition, Pearson Education Asia.
3. E Stephen Mack, Janan Platt : HTML 4.0 , No Experience Required, 1998, BPB Publications.
4. "HTML Complete" by Sybex, BPB Publications, 2001.
5. Internet and Web Page Designing By V.K Jain (BPB)
6. Web Enabled Commercial Application Development Using HTML, DHTML , java script, Perl CGI By Ivan Bayross (BPB)

**Paper Code: MCSLE -106**

**Paper Name : Project**

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### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

---

### Practical Training and Project Work:

1. Project Work may be done individually or in groups in case of bigger projects(maximum two). However if project is done in group each student must be given a responsibility for a distinct module and care should be taken to monitor the individual student.
2. Project Work can be carried out in the college or outside with prior permission of college.
3. The Student must submit a synopsis of the project report to the college for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of draft project report the student should make the final copies.
4. **Project report should be hand written**

#### Submission Copy:

The Student should submit Spiral bound copy of the project report.

#### Format of the Project:

(a) **Paper:**

The Report shall be typed on White Paper of A4 size.

(b) **Final Submission:**

The Report to be submitted must be original.

(c) **Typing:**

**Font:-** Times New Roman

**Heading:-** 16 pt., Bold

**Subheading:-** 14 pt, Bold

**Content:-** 12 pt.

**Line Spacing:-** 1.5 line.

**Typing Side :-**One Side

**Font Color:-** Black.

(d) **Margins:**

The typing must be done in the following margin:

**Left :** 0.75”

**Right:** 0.75”

**Top:** 1”

**Bottom:** 1”

**Left Gutter:** 0.5”

(e) **Binding:**

The report shall be Spiral Bound.

(f) **Title Cover:**

The Title cover should contain the following details:

**Top:** Project Title in block capitals of 16pt.

**Centre:** Name of project developer's and Guide name.

**Bottom:** Name of the university, Year of submission all in block capitals of 14pt letters on separate lines with proper spacing and centering.

**(g) Blank sheets:**

At the beginning and end of the report, two white blank papers should be provided, one for the Purpose of Binding and other to be left blank.

**(h) Content:**

- I). Acknowledgement
- II). Institute/College/Organization certificate where the project is being developed.
- III). Table of contents
- IV). A brief overview of project
- V). Profiles of problem assigned
- VI). Study of Existing System
- VII). System Requirement
- VIII). Project plan
  - Team Structure
  - Development Schedule
  - Programming language and Development Tools
- IX). Requirement Specification
- X). Design
  - Detailed DFD's and Structure Diagram
  - Data structure, Database and File Specification
- XI). Project Legacy
  - Current Status of project
  - Remaining Areas of concern
  - Technical and Managerial Lessons Learnt
  - Future Recommendations
- XII). Nomenclature and Abbreviations.
- XIII). Bibliography
- XIV). Source Code.

# SCHEME OF EXAMINATION AND SYLLABUS

## Post Graduate Diploma in Computer Application

Session 2020-21



@M.G.S. UNIVERSITY, BIKANER

## Session 2020-21

### SCHEME OF EXAMINATION

#### 1. ELIGIBILITY FOR ADMISSION

Graduates of any statutory university shall be eligible for admission to the PGDCA Course. (Eligibility Marks/ Relaxation to SC/ST etc. as per Government/University Rules)

#### 2. PASS CRITERIA

The examinee has to secure at least 36% marks to pass the examination and 25% marks in each individual paper. Even if he/she will be failed in one paper/course, he/she will be declared fail. She/he however should be allowed one more chance to take the examination as Ex-student. In such a case, the marks of practical/ tutorials etc shall be carried forward for the said purpose.

#### 3. CLASSIFICATION OF SUCCESSFUL CANDIDATE

| Division        | Total Marks             |
|-----------------|-------------------------|
| First Division  | 60% and above           |
| Second Division | Above 48% and below 60% |
| Pass            | Above 36% and below 48% |
| Fail            | Below 36%               |

#### 4. INSTRUCTIONS TO PAPER SETTER

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

#### 5. WORKLOAD

At least 3 classes for theory class and 3 classes for practical lab should be assigned per week for each paper.

#### 6. INSTRUCTIONS FOR PRACTICAL EXAMINATION

Marks Distribution for Practical Exam -

Each practical exam is to be conducted by two examiners one External and one Internal. External examiner should be senior lecturer from jurisdiction of MGS University. External examiner will prepare question paper of Practical Examination. Students have to perform exercise on computer. Exercise must be written in answer books in proper documentation.

Marks distribution for Practical of 50 marks is as under

- |  |          |
|--|----------|
| i) Three Exercise of 10 marks each<br>(Logic 04, Execution 03, Documentation 03) | 30 Marks |
| ii) Viva-Voce  | 10 Marks |
| iii) Laboratory Exercise File  | 10 marks |

Marks distribution for Project of 100 marks is as under

- |  |          |
|--|----------|
| i) Project Dissertation and Presentation | 75 marks |
| ii) External Viva Voce                   | 25 marks |

## Teaching and Examination scheme

| Paper                            | Paper Name(Theory)              | Lect/<br>week | Tuto/<br>week | Exam<br>Hours | Max.<br>Marks | Min.<br>Pass.<br>Marks              |
|----------------------------------|---------------------------------|---------------|---------------|---------------|---------------|-------------------------------------|
| <b>Theory Papers</b>             |                                 |               |               |               |               |                                     |
| PGDCA-101                        | Computer Organization           | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                  |
| PGDCA-102                        | Programming with C++            | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                  |
| PGDCA-103                        | Database System                 | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                  |
| PGDCA-104                        | Operating System                | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                  |
| PGDCA-105                        | Computer Networks               | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                  |
| <b>Total of Theory Papers</b>    |                                 |               |               |               | <b>250</b>    | <b>90</b><br>(36%<br>aggregate<br>) |
| <b>Paper Name (Practical)</b>    |                                 |               |               |               |               |                                     |
| PGDCA-106                        | Research Project/ Case<br>Study | 3             | 1             | 3             | 100           | <b>25</b><br>(25%)                  |
| PGDCA107                         | C++ Lab                         | 3             |               | 3             | 50            | <b>13</b><br>(25%)                  |
| PGDCA 108                        | DBMS Lab                        | 3             |               | 3             | 50            | <b>13</b><br>(25%)                  |
| <b>Total of Practical Papers</b> |                                 |               |               |               | <b>200</b>    | <b>72</b><br>(36%<br>aggregate<br>) |

|   |            |                                      |
|---|------------|--------------------------------------|
| <b>Grand Total (Theory 250 + Practical 200)</b> | <b>450</b> | <b>162</b><br>(36%<br>aggregate<br>) |
|---|------------|--------------------------------------|

**Paper Code: PGDCA-101**

**Paper Name : Computer Organization**

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### **Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### **Unit I**

**Components of a Computer:** Processor, Memory, Input-Output Unit, Difference between Organization and Architecture, Hardware Software Interaction. **Number System:** Concept of Bit and Byte, types and conversion. **Complements:** 1's complement, 2's complement. **Binary Arithmetic:** Addition, overflow, subtraction, multiplication (booth's algorithm) and division algorithm.

#### **Unit II**

**Logic gates:** Boolean Algebra, Map Simplification. **Combinational circuits:** Half Adder, Full Adder, Decoders, Multiplexers. **Sequential circuits:** Flip Flops- SR, JK, D, T Flip-Flop.

#### **Unit III**

**Input Output Organization:** Peripheral devices, I/O Interface, Asynchronous Data Transfer, Modes of Data Transfer, Direct Memory Access, I/O Processor.

#### **Unit IV**

**Memory Organization:** Types and capacity of Memory, Memory Hierarchy, Cache Memory, Virtual Memory.

#### **Unit V**

**Intel 8085 Microprocessor:** Introduction, ALU, Timing and Control Unit, Register Set, Data and Address Bus, Addressing modes, Complete Intel 8085 Instruction set, Instruction format, Opcode and Operand, Word Size, Intel 8085 programs.

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### **Suggested Readings**

1. Computer System Architecture, By M. Morris Mano (Pearson, Prentice Hall)
2. Carter Nicholas, "Computer Architecture", Schaun outline Sevier, Tata McGraw-Hill.
3. J.P. Hayes, "Computer Architecture & Organization", Tata McGraw Hill

4. Digital Computer Fundamentals By Thomas C. Batee (McGraw Hill)
5. Microprocessor Architecture, Programming, and Application With the 8085 By Ramesh Gaonkar (PENRAM)
6. Fundamentals of Microprocessor and Microcomputes By B.Ram (Danpat Rai Publications)

**Paper Code: PGDCA-102**

**Paper Name : Programming with C++**

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### **Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### **Unit I**

Object Oriented System: Difference Between Procedural and Object Oriented Languages, Object Oriented Paradigm, Inheritance, Polymorphism, Abstraction, Encapsulation, Benefits and Application of Oops. Introduction to C++: Character Set, Token, Constants, Variables and Data Types, Enumeration Types, Operators, Expressions, Operator Precedence and Associativity, Input, Output, Conditional Statements, Scope of Variables, Type Conversion.

#### **Unit II**

Iteration, Break, Continue, goto; Pointers: Introduction, implementation advantage and disadvantage. Functions - Standard and User-Defined Function, Recursive Function, Passing By Value And Reference, Function Overloading.

#### **Unit III**

Array: introduction, advantage, One, Two and Multidimensional, String Processing. Class: Introduction to Class and Object, Declaring Members and Methods in a class, declaring objects.

#### **Unit IV**

Functions and objects, Inline Function, Friend Functions and Its Usage, Abstract Class, Function Overriding. Constructor and Destructor- Needs and Its Usage, Types of Constructors, Destructor, Static Data Members and Methods. Inheritance - Need of Inheritance, Types of Inheritance and its implementation.

#### **Unit V**

Operator Overloading: Need and Rules of Operator Overloading, Overloading Through Member Function and Friend Function. Compile Time and Run Time Polymorphism- Virtual Function and virtual class. **Additional Features of C++11, C++14 and C++17.**

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### **Suggested Readings**

1. Object Oriented Programming With C++ By E. Balagurusamy (Tata Mcgraw Hill)
2. C++ The Complete Reference By Herbert Schildt (Tata Mcgraw Hill)
3. Object Oriented Programming With C++ By Schaum Series (Tata Mcgraw Hill)
4. C++11 for Programmers (Deitel Developer) by Paul J. Deitel (Author), Harvey M. Deitel, Prentice Hall; 2nd edition
5. Professional C++ by Marc Gregoire, Nicholas A. Solter and Scott J.Kleper (Goodreads Publications)
6. A Tour of C++ by Bjarne Stroustrup, 2018
7. C++17 in Detail by Bartłomiej Filipek

**Paper Code: PGDCA-103**

**Paper Name : Database Management**

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### **Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### **Unit I**

Introduction: Characteristics of database approach, Advantages, Database system architecture, Overview of different types of Data Models and data independence, Schemas and instances, Database languages and interfaces; E-R Model : Entities, Attributes, keys, Relationships, Roles, Dependencies, E-R Diagram.

#### **Unit II**

Introduction to Relational model, Constraints: Domain, Key, Entity integrity, Referential integrity; Keys: Primary, Super, Candidate, Foreign; Relational algebra: select, project, union, intersection, minus, cross product, different types of join, division operations; aggregate functions and grouping.

#### **Unit III**

SQL: Data Types, statements: select, insert, update, delete, create, alter, drop; views, SQL algebraic operations, nested queries; Stored procedures: Advantages, Variables, creating and calling procedures, if and case statements, loops, Cursors, Functions, Triggers.

#### **Unit IV**

Normalization: Definition, Functional dependencies and inference rules, 1NF, 2NF, 3NF and BCNF; Transactions processing: Definition, desirable properties of transactions, serial and non-serial schedules, concept of serializability, conflict-serializable schedules.

#### **Unit V**

Concurrency Control: Two-phase locking techniques, dealing with Deadlock and starvation, deadlock prevention protocols, basic timestamp ordering algorithm; Overview of database recovery techniques; concept of data warehousing.

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### **Suggested Readings**

1. Fundamentals of Database Systems, Ramez A. Elmasri, Shamkant Navathe, 5<sup>th</sup> Ed (Pearson)

2. Database System Concepts By Korth, Silberschatz, Sudarshan (Mcgraw Hill)
3. An Introduction to Database Systems By Bipin C. Desai (Galgotia Publication.)
4. SQL, PL/SQL Programming By Ivan Bayross (BPB)
5. Commercial Application Development Using Oracle Developer 2000 By Ivan Bayross (BPB)
6. <http://www.mysqltutorial.org/mysql-stored-procedure-tutorial.aspx>

**Paper Code: PGDCA-104**

**Paper Name : Operating System**

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### **Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### **Unit I**

Introduction to Operating System, layered Structure, Functions, Types; Process: Concept, Process States, PCB; Threads, System calls; Process Scheduling: types of schedulers, context switch.

#### **Unit II**

CPU Scheduling, Pre-Emptive Scheduling, Scheduling Criteria- CPU Utilization, Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling Algorithms- FCFS, SJF, Priority Scheduling, Round Robin Scheduling, MLQ Scheduling, MLQ With Feedback.

#### **Unit III**

Synchronization: Critical Section Problem, Requirements for a solution to the critical section problem; Semaphores, simple solution to Readers-Writers Problem. Deadlock: Characterization, Prevention, Avoidance, Banker's Algorithm, Recovery from Deadlock.

#### **Unit IV**

Memory Management: Physical and virtual address space, Paging, Overview of Segmentation; Virtual Memory Management: Concept, Page Replacement techniques- FIFO, LRU, Optimal. Linux: features of Linux, steps of Installation, Shell and kernel, Directory structure.

#### **Unit V**

Linux: Users and groups, file permissions, commands- ls, cat, cd, pwd, chmod, mkdir, rm, rmdir, mv, cp, man, apt, cal, uname, history etc. ; Installing packages; Shell scripts: writing and executing a shell script, shell variables, read and expr, decision making (if else), for and while loops.

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### **Suggested Readings**

1. Operating System Principals By Abraham Silberschatz, Peter Baer Galvin (John Wiley And Sons Inc.)
2. Operating System Concepts And Design By Milan Milen Kovic (Tata Mcgraw Hill)

3. Modern Operating System Andrew S. Tanenbaum, Herbert Bos
4. Linux in easy steps, Mike McGrath, in easy steps limited
5. Unix concepts and applications , TMH, Sumitabha Das

**Paper Code: PGDCA-105**

**Paper Name : Computer Networks**

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### **Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### **Unit - I**

**Data Communication and Networking:** Overview, Network Types, LAN Technologies, Topologies, Models- OSI Model, TCP/IP Stack, Security

#### **Unit - II**

**Physical Layer:** Introduction, Impairments, Performance, Digital Transmission, modes, digital to digital, analog to digital, Analog Transmission, digital to analog, analog to analog, Transmission media, Wireless Transmission, **Switching techniques:** Circuit Switching, Packet switching, Message switching.

#### **Unit - III**

**Data Link Layer:** Introduction, Data Link Control: Line Discipline- Enq/Ack, Poll/Select, **Flow Control** : Stop And Wait, Sliding Window, **Error Control** : ARQ, Stop and Wait ARQ, Sliding Window ARQ.

#### **Unit - IV**

**Network Layer:** Introduction, Network Addressing, Routing, Internetworking, Tunneling, Packet Fragmentation, Network Layer Protocols, ARP, ICMP, IPv4, IPv6

#### **Unit V**

**Transport Layer:** Introduction, Function, End to end communication, Transmission Control Protocol, User Datagram Protocol

**Application Layer:** Introduction, Client-Server Model, Application Protocols, Network Services

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### **Suggested Readings**

1. Data Communication and Networking By Forozan (Tata McGraw Hill)
2. Data Communication And Computer Networks By Dr. Madhulika Jain, Satish Jain (BPB)
3. William Stallings, "Data and Computer Communications", Pearson Education, 2008.

4. Rajneesh Agrawal and Bharat Bhushan Tiwari, "Data Communication and Computer Networks", Vikas Publishing house Ltd. , 2005.
5. A. S. Tanenbaum, "Computer Networks", Fourth Edition, Pearson Education.

**Paper Code: PGDCA-106**

**Paper Name : Project**

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**Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Marks distribution for Project of 100 marks is as under-

|  |          |
|--|----------|
| i) Project Dissertation and Presentation | 75 marks |
| ii) External Viva Voce                   | 25 marks |

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**Practical Training and Project Work:**

1. Project Work may be done individually or in groups in case of bigger projects(maximum two). However if project is done in group each student must be given a responsibility for a distinct module and care should be taken to monitor the individual student.
2. Project Work can be carried out in the college or outside with prior permission of college.
3. The Student must submit a synopsis of the project report to the college for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of draft project report the student should make the final copies.
4. **Project report should be hand written**

**Submission Copy:**

The Student should submit Spiral bound copy of the project report.

**Format of the Project:**

(a) **Paper:**

The Report shall be typed on White Paper of A4 size.

(b) **Final Submission:**

The Report to be submitted must be original.

(c) **Typing:**

**Font:-** Times New Roman

**Heading:-** 16 pt., Bold

**Subheading:-** 14 pt, Bold

**Content:-** 12 pt.

**Line Spacing:-** 1.5 line.

**Typing Side** :-One Side

**Font Color**:- Black.

**(d) Margins:**

The typing must be done in the following margin:

**Left** : 0.75"

**Right**: 0.75"

**Top**: 1"

**Bottom**: 1"

**Left Gutter**: 0.5"

**(e) Binding:**

The report shall be Spiral Bound.

**(f) Title Cover:**

The Title cover should contain the following details:

**Top**: Project Title in block capitals of 16pt.

**Centre**: Name of project developer's and Guide name.

**Bottom**: Name of the university, Year of submission all in block capitals of 14pt letters on separate lines with proper spacing and centering.

**(g) Blank sheets:**

At the beginning and end of the report, two white blank papers should be provided, one for the Purpose of Binding and other to be left blank.

**(h) Content:**

- I). Acknowledgement
- II). Institute/College/Organization certificate where the project is being developed.
- III). Table of contents
- IV). A brief overview of project
- V). Profiles of problem assigned
- VI). Study of Existing System
- VII). System Requirement
- VIII). Project plan
  - o Team Structure
  - o Development Schedule
  - o Programming language and Development Tools
- IX). Requirement Specification
- X). Design

- Detailed DFD's and Structure Diagram
- Data structure, Database and File Specification

**XI).** Project Legacy

- Current Status of project
- Remaining Areas of concern
- Technical and Managerial Lessons Learnt
- Future Recommendations

**XII).** Nomenclature and Abbreviations.

**XIII).** Bibliography

**XIV).** Source Code.

## **M.Sc. Computer Sc. (Cyber Security)**

**Session 2020-21**

**Examination 2021-22**

### **ELIGIBILITY FOR ADMISSION**

Graduates possessing 50% marks in any faculty of any statutory university who have studied Computer Science/ Computer Application as a main or vocational subject for three years shall be eligible for admission to the M.Sc. Cyber Security Course (Relaxation to SC/ST etc. as per Prevailing Rules)

### **PASS CRITERIA**

For passing in the examination, a candidate is required to obtain at least 25% in each paper (Internal + External) and 36% marks in the total aggregate in theory and 36% marks in practical separately (in each semester examination).

### **CLASSIFICATION OF SUCCESSFUL CANDIDATES**

As per university norms

#### **Scheme of Examination**

1. English shall be the medium of instructions and examination.
2. Examinations shall be conducted at the end of course as per the Academic Calendar notified by the Maharaja Ganga Singh University of Bikaner.

#### ***Instructions for Paper setters***

3. The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).
4. The word limit of part A, B and C are 50, 200 and 500 respectively
  - 4.1 The duration of written examination for each paper shall be of three hours and Practical examination shall be for 3 hours duration.
  - 4.2 The minimum attendance required by a candidate will be as per university rules.
5. With regard to dissertation/project/training, the scheme of evaluation shall be as follows:
  - 5.1.1 The candidate has to submit a dissertation in a bound form in three copies at the end of course which would be evaluated by an external examiner. Total marks for dissertation shall be 50 (40 external + 10 internal marks).
  - 5.1.2 The dissertation/case study/project/training/review will be evaluated at the end of course by an external examiner.
  - 5.1.3 Students are advised to complete dissertation/project/training (Review or experimental) preferably in some outside research institute or industry or otherwise in the University.
6. An educational tour may be organized for students within or outside the State under the supervision of faculty members of the department. Traveling expenses of the teacher/s will be borne by the university as per rules.

**Teaching and Examination scheme for  
M.Sc. Cyber Security  
Semester I**

| Paper Code                            | Paper Name                                  | Exam Hours | Maximum Marks  |                | Minimum passing Marks |
|---------------------------------------|---|------------|----------------|----------------|-----------------------|
|                                       |   |            | Internal Marks | External Marks |                       |
| MCSEC 101                             | Mathematical Foundations for Cyber Security | 3          | 10             | 40             | 13                    |
| MCSEC 102                             | Cyber Crime, Cyber Laws and IPR             | 3          | 10             | 40             | 13                    |
| MCSEC 103                             | Computer Networks                           | 3          | 10             | 40             | 13                    |
| MCSEC 104                             | C++ and Data Structures                     | 3          | 10             | 40             | 13                    |
| MCSEC 105                             | Combined Practical                          | 3          | 25             | 75             | 36                    |
| <b>Grand Total(Theory+ Practical)</b> |   |            |                | <b>300</b>     |                       |

**Teaching and Examination scheme for  
M.Sc. Cyber Security  
Semester II**

| Paper Code                            | Paper Name                            | Exam Hours | Maximum Marks |            | Minimum passing Marks |
|---------------------------------------|---------------------------------------|------------|---------------|------------|-----------------------|
|                                       |                                       |            | Internal      | External   |                       |
| MCSEC 201                             | Information Security and Cryptography | 3          | 10            | 40         | 13                    |
| MCSEC 202                             | Ethical Hacking                       | 3          | 10            | 40         | 13                    |
| MCSEC 203                             | DBMS                                  | 3          | 10            | 40         | 13                    |
| MCSEC 204                             | Python                                | 3          | 10            | 40         | 13                    |
| MCSEC 205                             | Combined Practical                    | 3          | 25            | 75         | 36                    |
| <b>Grand Total(Theory+ Practical)</b> |                                       |            |               | <b>300</b> |                       |

**Teaching and Examination scheme for  
M.Sc. Cyber Security  
Semester III**

| Paper Code | Paper Name                               | Exam Hours | Maximum Marks |          | Minimum passing Marks |
|------------|--|------------|---------------|----------|-----------------------|
|            |  |            | Internal      | External |                       |
| MCSEC 301  | Cyber Forensics, Audit and Investigation | 3          | 10            | 40       | 13                    |
| MCSEC 302  | Biometric Security                       | 3          | 10            | 40       | 13                    |
| MCSEC 303  | Wireless LAN and Mobile Computing        | 3          | 10            | 40       | 13                    |

|                                       |                           |   |    |            |    |
|---------------------------------------|---------------------------|---|----|------------|----|
| <b>MCSEC 304</b>                      | <b>Operating Systems</b>  | 3 | 10 | 40         | 13 |
| <b>MCSEC 305</b>                      | <b>Combined Practical</b> | 3 | 25 | 75         | 36 |
| <b>Grand Total(Theory+ Practical)</b> |                           |   |    | <b>300</b> |    |

**Teaching and Examination scheme for  
M.Sc. Cyber Security  
Semester IV**

| Paper Code                            | Paper Name  | Exam Hours | Maximum Marks |            | Minimum Passing Marks |
|---------------------------------------|---|------------|---------------|------------|-----------------------|
|                                       |   |            | Internal      | External   |                       |
| <b>MCSEC 401</b>                      | <b>Malware Analysis</b>                           | 3          | 10            | 40         | 13                    |
| <b>MCSEC 402</b>                      | <b>Mobile and wireless security</b>               | 3          | 10            | 40         | 13                    |
| <b>MCSEC 403</b>                      | <b>Intrusion Detection and Prevention Systems</b> | 3          | 10            | 40         | 13                    |
| <b>MCSEC 404</b>                      | <b>Project/Dissertation</b>                       | 3          | 10            | 40         | 13                    |
| <b>MCSEC 405</b>                      | <b>Combined Practical</b>                         | 3          | 25            | 75         | 36                    |
| <b>Grand Total(Theory+ Practical)</b> |   |            |               | <b>300</b> |                       |

**Note:**

***Instructions for Paper setters***

1. The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).
2. Each practical exam is to be conducted by two examiners one External and one Internal. External examiner should be senior lecturer from jurisdiction of other universities. Marks distribution for Practical of 40 marks is as under
  - a) Practical Examination exercise of 3 questions 30 marks
  - b) Viva-Voce 5 marks
  - c) Laboratory Exercise File 5 marks
3. Marks distribution for Project of 40 marks is as under
  - a. External Evaluation-
    - i. Project Dissertation 30 marks
    - ii. Presentation 5 marks
    - iii. External Viva Voce 5 marks
  - b. Internal Evaluation- Dissertation 10 marks
4. The student has to complete two months career oriented summer training from any firm/organization. If the student does not get a chance to go for training, he/she can choose a research topic and can complete dissertation under the supervision of any of the faculty in his college.
5. The student who has opted training, has to provide a signed certificate from the firm/organization authority stating that the student has spent two months as a trainee in his organization/firm. The student who has opted for dissertation, has to submit his/her dissertation report with a certificate from his supervisor.
6. In both the cases a student has to present his work in front of all the faculty members and fellow students at the starting of the next session.
7. At least 3 hours for lectures and one hour for tutorial should be allotted per week for each theory paper.
8. A slot of at least 2 hours per week should be allotted for each practical paper.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

## MCSEC-101 Mathematical Foundations for Cyber Security

### *Instructions for Paper setters*

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

**Note:** Scientific Calculator may be allowed in the examination.

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### Unit I

Overview of Sets, Basics of counting, Permutations and Combinations, Relations-equivalence and partial orders. Concept of time complexity and asymptotic notations. **Graph Theory:** Euler graphs, Hamiltonian paths and circuits, planar graphs, rooted and binary trees, cut sets, graph colorings and applications, chromatic number, chromatic partitioning and polynomial, matching.

### Unit II

**Analytic Number Theory:** Prime numbers, Euclid's lemma, Euclidean algorithm, basic properties of congruences, residue classes and complete residue systems, Euler-Fermat theorem, Lagrange's theorem and its applications, Chinese remainder theorem, primitive roots. Algebra: groups, cyclic groups, rings, fields, finite fields, lattices and their applications to cryptography.

### Unit III

**Linear Algebra:** vector spaces and subspaces, linear independence, basis and dimensions, linear transformations and applications. **Probability theory:** basics, conditional probability, Bayes theorem, random variables – discrete and continuous, normal probability distribution, central limit theorem, stochastic process, Markov chain. **Coding Theory:** equivalence of codes, linear codes. Overview of Pseudorandom Number Generation.

### Suggested Readings:

1. Discrete Mathematics and its applications by K. H. Rosen, seventh edition, TMH
2. Ivan Niven, Herbert S. Zuckerman, and Hugh L. Montgomery, 'An introduction to the theory of numbers', John Wiley and Sons 2004.
3. Douglas Stinson, 'Cryptography – Theory and Practice', CRC Press, 2006.
4. Sheldon M Ross, "Introduction to Probability Models", Academic Press, 2003.
5. H. Anton, "Elementary Linear Algebra", John Wiley & Sons, 2010.
6. C.L. Liu, 'Elements of Discrete mathematics', McGraw Hill, 2008.
7. Fraleigh J. B., 'A first course in abstract algebra', Narosa, 1990.
8. Joseph A. Gallian, "'Contemporary Abstract Algebra', Narosa, 1998.
9. D.S. Malik, J. Mordeson, M.K.Sen, Fundamentals of abstract algebra, TataMcGrawHill

Duration: 3 Hours

Maximum Marks: 50

**MCSEC-102 Cyber Crime, Cyber Laws and IPR**

***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

**Unit I**

Introduction to cyber crime and cyber law, cyberspace and information technology, Nature and scope of cyber crime, Jurisdiction of cybercrime. Important definitions under IT Act 2000, Cyber crime issues: unauthorized access, White collar crimes, viruses, malwares, worms, Trojans, logic bomb, Cyberstalking, voyeurism, obscenity in internet, Software piracy

**Unit II**

IT Act 2000, offences under IT Act and IT(amendment) Act, 2008. CRPC overview, Role Of Intermediaries, Electronic Evidence, Cyberterrorism, espionage, warfare and protection system. Overview of amended laws by the IT Act, 2000: The Indian Penal Code, 1860, The Reserve Bank of India Act 1934, Cyber Theft and the Indian Telegraph Act,1885. Digital Signatures and certificate-legal issues.

**Unit III**

Intellectual Property rights: Introduction to IP, Copyright, Related Rights, Trademarks, Geographical Indications, Industrial Design, Patents, Licensing and transfer of technology, WIPO Treaties , CopyrightsAct, PatentsAct, Trademark Act.

**Suggested Readings:**

1. Cyber Security, Cyber Crime and Cyber Forensics: Applications and Perspectives, Raghu Santanam, M. Sethumadhavan, Information Science Reference.
2. Pfleeger, Charles P.and ShariL. Pfleeger.Security in Computing, 4th Edition. Upper Saddle River, NJ:Prentice Hall,2008.
3. Cyber crime:Security and Surveillance in the Information Age,Douglas Thomas; Brian Loader.
4. Computer Crime:A Crime-Fighters Handbook by David Icove.
5. Crime in the Digital Age: Controlling Telecommunications and Cyber space Illegality,Peter N. Grabosky.
6. Cyber law–The Indian Perspective By Pavan Duggal,Saakshar Law Publications.
7. Jonathan Rosenoer,“Cyber Law:The law of the Internet”, Springer-Verlag, 1997.
8. Mark F Grady,Fransesco Parisi,“The Law and Economics of Cyber Security”,Cambridge University Press,2006.

**MCSEC-103 Computer Networks**

***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

**Unit I**

Introductory Concepts: Goals and Applications of Networks, Network structure and architecture, the OSI reference model, services, networks topology. Physical Layer: The Physical Layer, Theoretical Basis for Data Communication, Guided Transmission Media, Wireless Transmission, Overview of Digital Signal Encoding Formats, Digital Modulation – ASK, FSK, PSK, PSK, Digitization – Sampling Theorem, PCM, DM, Analog Modulation – Introducing AM, FM, PM, The Mobile Telephone System.

**Unit II**

The Data Link Layer: Data Link Layer Design Issues, Error Detection and Correlation, Flow Control Protocols, Stop-and-wait Flow Control, Sliding – Window Flow Control, Error Control, Stop-and-wait ARQ, Go-back-N; Example of Data Link Protocols-HDLC Medium access sub layer: Channel allocations, ALOHA Protocols, Carrier Sense Multiple Access Protocols, Ethernet, wireless LANs, BlueTooth, Data Link Layer Switching.

**Unit III**

Network Layer: Point-to-Point network, routing algorithms, congestion control, internetworking, Quality Control, Internetworking, The Network Layer in the Internet, IP packet, IP addresses, IPv6. Transport Layer: Design Issue, connection management, TCP window management, User Datagram Protocol, Transmission Control Protocol, Performance Issues. Application Layer: DNS, E-Mail, WWW, Multimedia, application layer protocols.

**Suggested Readings**

1. Forouzan, “Data Communication and Networking”, TMH, 4th Edition.
2. A.S. Tanenbaum, “Computer Networks”, PHI, 4th Edition.
3. W. Stallings, “Data and Computer Communication”, Macmillan Press.
4. Comer, “Computer Networks and Internet”, PHI. 5.Comer, “Internetworking with TCP/IP”, PHI.
5. W. Stallings, “Data and Computer Communication”, McMillan.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

### **MCSEC-104 C++ and Data Structures**

#### *Instructions for Paper setters*

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

#### **Unit I**

**Basics** : Overview of OOPs, if-else statements, loops (for, while). **Functions** : Overview, passing arguments by value and reference, recursive function, pointers. **Arrays**: Overview, array and function, array and pointers. **Class**: Overview, static data members, Inline Function, Constructors and Destructors.

#### **Unit II**

**Inheritance**: usage, types, compile time and run time polymorphism, overloading and overriding, virtual function, friend function, abstract class. String handling, String class, Overview of Templates. **Searching**: Linear Search, Binary Search. **Sorting**: Insertion Sort, Quick sort.

#### **Unit III**

**Algorithm**: Time and Space complexity of Algorithm. **Overview and applications of abstract data types**: Linked List, Stack, Queue. **Trees** : Basic terminologies. **Binary Tree** : Representation as Array, Basic operations, **Tree Traversal** : Inorder, Preorder, Postorder, Application of Binary Tree.

#### **Suggested Readings**

1. Object Oriented Programming With C++ By E. Balagurusamy (Tata Mcgraw Hill)
2. C++ The Complete Reference By Herbert Schildt (Tata Mcgraw Hill)
3. Object Oriented Programming With C++ By Schaum Series (Tata Mcgraw Hill)
4. C++11 for Programmers (Deitel Developer) by Paul J. Deitel (Author), Harvey M. Deitel, Prentice Hall; 2nd edition
5. Professional C++ by Marc Gregoire, Nicholas A. Solter and Scott J.Kleper (Goodreads Publications)
6. A Tour of C++ by Bjarne Stroustrup, 2018
7. C++17 in Detail by Bartłomiej Filipek
8. Expert Data Structure with 'C' By R.B Patel (Khana Book Publishing Co.(P))
9. Data structure By Lipschutz (Tata McGraw Hill)
10. Data Structure By Yashvant Kanitkar (BPB)
11. An Introduction to Data Structures with Applications By Jean-Paul Tremblay, Paul G.Sarerson (Tata McGraw Hill)

12. Data Structure Using C and C++ By Yedidyah Langsam, Moshe J. Augenstein,  
Arora M. Tenenbaum (Prentice- Hall India)

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

## **MCSEC-201 Information Security and Cryptography**

### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

### **Unit I**

**Information Security:** Introduction, CNSS Security Model, Components of Information System, Approaches to Information Security Implementation, The Security Systems Development Life Cycle. **Cryptography:** Concept, traditional ciphers like Caesar, Substitution, Vigenere, Transposition.

### **Unit II**

**Symmetric key Ciphers:** Concept and Types, Structure and analysis of DES, Security of DES, Structure and analysis of AES. **Asymmetric key Ciphers:** Concept of public key cryptosystems, RSA algorithm, Diffie-Hellman Key exchange. **Message Authentication and Hash Functions:** Authentication requirements and functions, MAC and Hash Functions.

### **Unit III**

**MAC Algorithms:** Secure Hash Algorithm, Digital signatures, Kerberos. Concept and applications of IPsec, SSL, TLS, SET, PGP and S/MIME. Concept of steganography. **Cryptanalysis:** Concept, Linear Cryptanalysis, Differential Cryptanalysis.

### **Suggested Readings:**

1. Principles of Information Security : Michael E. Whitman, Herbert J. Mattord, CENGAGE Learning, 4th Edition.
2. Cryptography and Network Security : William Stallings, Pearson Education, 4th Edition.
3. Cryptography and Network Security : Forouzan Mukhopadhyay, McGraw Hill, 2nd Edition.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

## **MCSEC-202 Ethical Hacking**

### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

### **Section I**

Introducing Hacking, Different types of hacking, Phases of hacking, Installation and configuration of Kali Linux, Overview of directory structure, Usage of basic commands; Malwares – Virus , Worms, Trojan; Information gathering using NMAP and ZenMAP .

### **Section II**

Metasploit: Exploiting System Software and Privilege, Metasploit Social Engineering Attack. Working and Network analysis with Wireshark , Network and web scanning about target , Packet captures and man-in-the-Middle attacks. Hacking using different social Engineering techniques.

### **Section III**

DoS and DDoS attacks, Hardware hacking, Hijack sessions, Hacking web servers, Website Hacking , SQL Injection and SQLMAP, Database assessment , Router and Wi-Fi attacks, different types of password attacks, phishing attacks.

### **Suggested Readings:**

1. Basic Security Testing with Kali Linux, by Daniel Dieterle, freely available online.
2. Gray Hat Hacking The Ethical Hacker's Handbook, Branko Spasojevic, TMH, 2018.
2. Ethical Hacking and Penetration Testing Guide, by Rafay Baloch , Auerbach Publications.
3. Kali Linux Revealed,by Raphaël Hertzog, JimO’Gorman, and Mati Aharoni, offsec press,<https://kali.training/downloads/Kali-Linux-Revealed-1st-edition.pdf>
5. Kali Linux - An Ethical Hacker's Cookbook, by Himanshu Sharma , Packt Publishing Limited

### **Web resources:**

1. <https://nptel.ac.in/courses/106/105/106105217/>

Duration: 3 Hours

Maximum Marks: 50  
Minimum Passing Marks: 13

## MCSEC-203 DBMS

### *Instructions for Paper setters*

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

### Unit I

**Introduction:** Characteristics of database approach, Advantages, Database system architecture, Overview of different types of Data Models and data independence, Schemas and instances, Database languages and interfaces; **E-R Model** : Entities, Attributes, keys, Relationships, Roles, Dependencies, E-R Diagram; Normalization: Definition, Functional dependencies and inference rules, 1NF, 2NF, 3NF and BCNF.

### Unit II

**Introduction to Relational model,** Constraints: Domain, Key, Entity integrity, Referential integrity; Keys: Primary, Super, Candidate, Foreign; **Relational algebra:** select, project, union, intersection, minus, cross product, different types of join, division operations; aggregate functions and grouping; **SQL:** Data Types, statements: select, insert, update, delete, create, alter, drop; views, SQL algebraic operations, nested queries; Stored procedures: Advantages, Variables, creating and calling procedures, if and case statements, loops, Cursors, Functions, Triggers.

### Unit III

**Transactions processing:** Definition, desirable properties of transactions, serial and non-serial schedules, concept of serializability, conflict-serializable schedules; **Concurrency Control:** Two-phase locking techniques, dealing with Deadlock and starvation, deadlock prevention protocols, basic timestamp ordering algorithm; Overview of database recovery techniques; concept of data warehousing.

### Suggested Readings:

1. Fundamentals of Database Systems, Ramez A. Elmasri, Shamkant Navathe, 5<sup>th</sup> Ed (Pearson)
2. Database System Concepts By Korth, Silberschatz, Sudarshan (Mcgraw Hill)
3. An Introduction to Database Systems By Bipin C. Desai (Galgotia Publication.)
4. SQL, PL/SQL Programming By Ivan Bayross (BPB)

5. Commercial Application Development Using Oracle Developer 2000 By Ivan Bayross (BPB)

### **Web Resources**

1. <http://www.mysqltutorial.org/mysql-stored-procedure-tutorial.aspx>

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

## **MCSEC-204 Python**

### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

### **Unit I**

Basics: Python Interpreter, writing code in Jupyter Notebook, Indentation, comments, importing a module, binary operators, standard scalar data types, type casting, if-else statements, loops(while, for), pass, range, ternary expressions. Data Structures and Sequences: Tuples, Lists and slicing, Built-in Sequence functions, Dictionary, Sets; List, Set, and Dict Comprehensions.

### **Unit II**

Functions: Namespaces, Scope, and Local Functions; Returning Multiple Values, Anonymous (Lambda) Functions, Partial Argument Application, Generators, Errors and Exception handling. Basic File Handling. Objects and Methods in Python. NumPy: creating N-dimensional arrays, arithmetic with NumPy arrays, basic indexing and slicing, Psuedorandom number generation.

### **Unit III**

Pandas: Overview of Series and DataFrames, reading data from csv file, DataFrame operations- working with data using functions like head, tail, info, shape, reshape, columns, isnull, dropna, mean, sum, describe, value\_counts, corr, loc, iloc, apply. Matplotlib- plotting basic figures, subplots, line plots, bar plots, histograms, scatter plots. Overview of Scikit-learn, SciPy, networkx. Applications of python.

### **Suggested Readings:**

1. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and Ipython, by Wes McKinney, O'Reilly Media, 2017
2. Python All-in-One for Dummies, by John Shovic and Alan Simpson, John Wiley & Sons, Inc., 2019
3. Programming in Python 3: A Complete Introduction to the Python Language, Mark Summerfield, Pearson.
4. Swaroop, C. H. (2003). A Byte of Python. Python Tutorial.
5. Introduction to Computation and Programming Using Python. By John V. Guttag, MIT Press.
6. Learning Python, Mark Lutz, David Ascher, O'Reilly
7. T. Budd, Exploring Python, TMH, 1st Ed, 2011

### **Web Resources**

1. <https://www.learnpython.org/>
2. <https://nptel.ac.in/courses/106/106/106106212/>
3. <http://greenteapress.com/thinkpython/thinkpython.pdf>
4. Python tutorial: <https://docs.python.org/3/tutorial/index.html>

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

### **MCSEC-301 Cyber Forensics, Audit and Investigation**

#### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

#### **Unit I**

Filesystem: CHS, LBA, HPA, write blockers, Extracting & recovering partitions, MBR, DOS partition table, Extended partition table, RAID; NTFS file system:Architecture, File creation,File deletion, Compression, encryption and indexing; Extended file systems: EXT4, Architecture, File creation, File deletion and Journaling; Other Disk structures; Windows and Linux boot process;File system acquisition and recovery.

#### **Unit II**

Windows Forensic Analysis: Window artifacts, Evidence volatility,System time, Logged on user(s), Open files, MRUs, Network information, Process information, Service information, Windows Registry, Startup tasks, Memory dumping; Document Forensics:PDF structure,PDF analysis, MS Office Document structure and analysis, Macros, Windows thumbnails.

#### **Unit III**

Mobile Forensics: SIM Card, Android architecture, Android File System, Android application; Virtual Machines, Network Forensics; Cyber crime investigation: Pre investigation,SOP for Investigation; Case scenarios:social media crime, Email investigation; CDR Analysis. Auditing: Internal Audit and IT Audit Function, IT Governance, Frameworks, Standards, and Regulations, Identifying information assets, Risk assessment and management.

#### **Suggested Readings:**

1. Computer Evidence-Collection and Preservation. Brown,C.L.T. Course Technology Cengage Learning.
2. Guide to Computer Forensics And Investigations Nelson, Bill; Phillips, Amelia; Enfinger,Frank;Steuat,Christopher Thomson Course Technology.
3. Computer Forensics–Computer Crime Scene Investigation. Vacca, John R. Charles River Media
4. Bunting, Steveand William Wei.EnCase Computer Forensics:The Official EnCE: EnCase Certified Examiner Study Guide.Sybex, 2006
5. Incident Response: Computer Forensics, Prosis, Chris, Kevin Mandia, and Matt Pepe, McGraw-Hill,2014
6. IT Security Risk Control Management:An Audit Preparation Plan,Raymond Pompon,Apress 2016
7. Carrier, Brian.File System Forensic Analysis. Addison- Wesley Professional.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

### **MCSEC-302 Biometric Security**

#### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

#### **Unit I**

Biometrics: Introduction, benefits of biometrics over traditional authentication systems, benefits of biometrics in identification systems, selecting a biometric for a system, Applications, Key biometric terms and processes, biometric matching methods, Accuracy in biometric systems.

#### **Unit II**

Physiological Biometric Technologies: Fingerprints- characteristics, strengths and weaknesses; Facial scan- characteristics, strengths and weaknesses; Iris scan- characteristics, strengths and weaknesses; Retina vascular pattern- characteristics, strengths and weaknesses; Hand scan - characteristics, strengths and weaknesses; DNA biometrics.

#### **Unit III**

Behavioral Biometric Technologies: Handprint Biometrics, overview of DNA Biometrics. Signature and handwriting technology- description, classification, keyboard/keystroke dynamics; Voice- data acquisition, feature extraction, characteristics, strengths and weaknesses. Multi biometrics and multi factor biometrics.

#### **Suggested Readings:**

1. Samir Nanavathi, Michel Thieme, and Raj Nanavathi : “Biometrics -Identity verification in a network”, 1st Edition, Wiley Eastern, 2002.
2. John Chirillo and Scott Blaul : “Implementing Biometric Security”, 1st Edition, Wiley Eastern Publication, 2005.
3. John Berger: “Biometrics for Network Security”, 1st Edition, Prentice Hall, 2004.
4. Paul Reid, Biometrics for network security, Hand book of Pearson, 2004

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

### **MCSEC-303 Wireless LAN and Mobile Computing**

#### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

#### **Unit I**

Wireless Networks: Introduction, Architecture, Wireless Switching Technology, Wireless Communication problem, Wireless Network Reference Model, Wireless, Wireless LAN: Infrared vs radio transmission, Infrastructure and Ad-hoc Network, IEEE 802.11: System Architecture, Protocol Architecture, 802.11b, 802.11a, Bluetooth: User Scenarios, Architecture.

#### **Unit II**

Global System for Mobile Communications (GSM): Mobile Services, System Architecture, Protocols, Localization & Calling, Handover, Security. GPRS: GPRS System, Architecture, UMTS: UMTS System Architecture. LTE: Long Term Evolution. Mobile Computing: Mobile communication, Mobile computing, Mobile Computing Architecture, Mobile Devices, Mobile System Networks, Mobility Management;

#### **Unit III**

Mobile Network Layer: Mobile IP: Goals, Assumptions, Entities and Terminology, IP Packet Delivery, Agent Discovery, Registration, Tunneling and Encapsulation, Optimizations, DHCP. Mobile Transport Layer: Traditional TCP, Indirect TCP, Snooping TCP, Mobile TCP, Fast retransmit/fast recovery, Transmission /time-out freezing, Selective retransmission, Transaction oriented TCP, TCP over 2.5G/3G Wireless Networks.

#### **Suggested Readings:**

1. Schiller, J. 2008. Mobile Communications. 2nd ed. India: Pearson Education.
2. Kumar, S. and Kakkasageri, M.S. "Wireless and Mobile Networks: Concepts and Protocols", Wiley India.
3. Kamal R. 2011. "Mobile Computing", 2nd Ed. Oxford University Press.
4. Talukder, A. K., Ahmed, H. and Yavagal, R.R. 2010. Mobile Computing: Technology, Applications and Service Creation, 2nd Ed. Tata McGraw Hill
5. Gast, M.S. "802.11 Wireless Networks: The Definitive Guide", O'Reilly Media.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

## **MCSEC-304 Operating Systems**

### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

### **Unit I**

Introduction to Operating System, layered Structure, Functions, Types; Process: Concept, Process States, PCB; Threads, System calls; Process Scheduling: types of schedulers, context switch, CPU Scheduling, Pre-Emptive Scheduling, Scheduling Criteria- CPU Utilization, Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling Algorithms- FCFS, SJF, Priority Scheduling, Round Robin Scheduling, MLQ Scheduling, MLQ With Feedback.

### **Unit II**

Synchronization: Critical Section Problem, Requirements for a solution to the critical section problem; Semaphores, simple solution to Readers-Writers Problem. Deadlock: Characterization, Prevention, Avoidance, Banker's Algorithm, Recovery from Deadlock. Memory Management: Physical and virtual address space, Paging, Overview of Segmentation; Virtual Memory Management: Concept, Page Replacement techniques- FIFO, LRU, Optimal

### **Unit III**

Linux: features of Linux, steps of Installation, Shell and kernel, Directory structure, Users and groups, file permissions, commands- ls, cat, cd, pwd, chmod, mkdir, rm, rmdir, mv, cp, man, apt, cal, uname, history etc. ; Installing packages; Shell scripts: writing and executing a shell script, shell variables, read and expr, decision making (if else, case), for and while loops.

### **Suggested Readings**

1. Operating System Principles By Abraham Silberschatz, Peter Baer Galvin (John Wiley And Sons Inc.)
2. Operating System Concepts And Design By Milan Milen Kovic (Tata Mcgraw Hill)
3. Modern Operating System Andrew S. Tanenbaum, Herbert Bos
4. Linux in easy steps, Mike McGrath, in easy steps limited
5. Unix concepts and applications , TMH, Sumitabha Das

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

### **MCSEC-401 Malware Analysis**

#### *Instructions for Paper setters*

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

#### **Unit I**

Introduction to malware, Types of malwares, Basic Static and Dynamic Analysis, Overview of Windows file format, PEView.exe, Patching Binaries , Disassembly(objdump, IDA Pro), Introduction to IDA, Introduction to Reverse Engineering, Extended Reverse Engineering using GDB and IDA;

#### **Unit II**

Advanced Dynamic Analysis - debugging tools and concepts, Malware Behavior - malicious activities and techniques, Analyzing Windows programs – WinAPI, Handles ,Networking , COM, Data Encoding, Malware Countermeasures , Covert Launching and Execution, Anti Analysis - Anti Disassembly, VM, Debugging;

#### **Unit III**

Packers – packing and unpacking, Intro to Kernel – Kernel basics, Windows Kernel API, Windows Drivers, Kernel Debugging, Rootkit Techniques- Hooking, Patching, Kernel Object Manipulation , Rootkit Anti-forensics , Covert analysis.

#### **Suggested Readings:**

1. Michael Sikorski and Andrew Honig, “ Practical Malware Analysis”, No Starch Press,2012
2. Jamie Butler and Greg Hogg, “Rootkits: Subverting the Windows Kernel”, Addison-Wesley, 2005
3. Dang, Gazet and Bachaalany, “Practical Reverse Engineering”,Wiley,2014
4. Reverend Bill Blunden, “The Rootkit Arsenal: Escape and Evasion in the Dark Corners of the System” Second Edition,Jones& Bartlett, 2012.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

## **MCSEC-402 Mobile and Wireless Security**

### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

### **Unit I**

INTRODUCTION: Security and Privacy for Mobile and Wireless Networks: Introduction- State of the Art- Areas for Future Research- General Recommendation for Research. Pervasive Systems: Enhancing Trust Negotiation with Privacy Support: Trust Negotiation- Weakness of Trust Negotiation- Extending Trust Negotiation to Support Privacy.

### **Unit II**

MOBILE SECURITY: Mobile system architectures, Overview of mobile cellular systems, GSM and UMTS Security & Attacks, Vulnerabilities in Cellular Services, Cellular Jamming Attacks & Mitigation, Security in Cellular VoIP Services, Mobile application security. SECURING WIRELESS NETWORKS: Overview of Wireless security, Scanning and Enumerating 802.11 Networks, Attacking 802.11 Networks, Attacking WPA protected 802.11 Networks;

### **Unit III**

Bluetooth Scanning and Reconnaissance, Bluetooth Eavesdropping, Attacking and Exploiting Bluetooth, Zigbee Security, Zigbee Attacks; ADHOC NETWORK SECURITY: Security in Ad Hoc Wireless Networks, Network Security Requirements, Issues and Challenges in Security Provisioning, Network Security Attacks, Key Management in Adhoc Wireless Networks, Secure Routing in Adhoc Wireless Networks

### **Suggested Readings:**

1. C. Siva Ram Murthy, B.S. Manoj, "Adhoc Wireless Networks Architectures and Protocols", Prentice Hall, x ISBN 9788131706885, 2007.
2. Nouredine Boudriga, "Security of Mobile Communications", ISBN 9780849379413, 2010
3. KMakki, PReiher, et. al. "Mobile and Wireless Network Security and Privacy", Springer, 2007
4. Levente Buttyan, JPHubaux. "Security and Cooperation in Wireless Networks", Cambridge University Press, 2008.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

### **MCSEC-403 Intrusion Detection and Prevention Systems**

#### ***Instructions for Paper setters***

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit of syllabus). **Section-C** will consist of 6 questions (2 questions from each unit of syllabus).

#### **Unit I**

Concept and definition , Internal and external threats to data, attacks, Need and types of IDS, Information sources Host based information sources, Network based information sources. Intrusion Prevention Systems, Network IDs protocol based IDs ,Hybrid IDs, Analysis schemes, thinking about intrusion.

#### **Unit II**

A model for intrusion analysis , techniques, types of responses mapping, responses to policy Vulnerability analysis, credential analysis, non credential analysis; Introduction to Snort, Snort Installation Scenarios, Installing Snort, Running Snort on Multiple Network Interfaces, Snort Command Line Options. Step-By-Step Procedure to Compile and Install Snort Location of Snort Files, Snort Modes Snort Alert Modes.

#### **Unit III**

Working with Snort Rules, Rule Headers, Rule Options, The SnortConfiguration File etc. Plugins, Preprocessors and Output Modules, Using Snort with MySQL,Using ACID and Snort Snarf with Snort, Agent development for intrusion detection, Architecture models of IDS and IPs.

#### **Suggested Readings:**

1. Rafeeq Rehman : “ Intrusion Detection with SNORT, Apache, MySQL, PHP and ACID,” 1st Edition, Prentice Hall , 2003.
2. Christopher Kruegel,Fredrik Valeur, Giovanni Vigna: “IntrusionDetection and Correlation Challenges and Solutions”, 1st Edition, Springer, 2005.
3. Carl Endorf, Eugene Schultz and Jim Mellander “Intrusion Detection & Prevention”, 1st Edition, Tata McGraw-Hill, 2004.
4. Stephen Northcutt, Judy Novak : “Network Intrusion Detection”, 3rdEdition, New Riders Publishing, 2002.
5. T. Fahringer, R. Prodan, “A Text book on Grid Application Development and Computing Environment”. 6th Edition, Khanna Publishers, 2012.

6. Ali A. Ghorbani, Wei Lu, "Network Intrusion Detection and Prevention: Concepts and Techniques", Springer, 2010
7. Paul E. Proctor, "The Practical Intrusion Detection Handbook ",Prentice Hall , 2001.
8. Ankit Fadia and Mnu Zacharia, "Intrusion Alert", Vikas Publishing house Pvt., Ltd, 2007
9. Earl Carter, Jonathan Hogue, "Intrusion Prevention Fundamentals", Pearson Education, 2006.

Duration: 3 Hours

Maximum Marks: 50

Minimum Passing Marks: 13

### **Practical Training and Project Work:**

1. Project Work may be done individually or in groups in case of bigger projects. However if the project is done in a group each student must be given a responsibility for a distinct module and care should be taken to monitor the individual student.
2. Project Work can be carried out in the college or outside with prior permission of college.
3. The Student must submit a synopsis of the project report to the college for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of the draft project report the student should make the final copies.
4. **The Project Report should be hand written**

#### **Submission Copy:**

The Student should submit a spiral bound copy of the project report.

#### **Format of the Project:**

##### **(a) Paper:**

The Report shall be typed on White Paper of A4 size.

##### **(b) Final Submission:**

The Report to be submitted must be original.

##### **(c) Typing:**

**Font:-** Times New Roman

**Heading:-** 16 pt., Bold

**Subheading:-** 14 pt, Bold

**Content:-** 12 pt.

**Line Spacing:-** 1.5 line.

**Typing Side :-**One Side

**Font Color:-** Black.

##### **(d) Margins:**

The typing must be done in the following margin:

**Left :** 0.75”

**Right:** 0.75”

**Top:** 1”

**Bottom:** 1”

**Left Gutter:** 0.5”

##### **(e) Binding:**

The report shall be Spiral Bound.

##### **(f) Title Cover:**

The Title cover should contain the following details:

**Top:** Project Title in block capitals of 16pt.

**Centre:** Name of project developer's and Guide name.

**Bottom:** Name of the university, Year of submission all in block capitals of 14pt letters on separate lines with proper spacing and centering.

##### **(g) Blank sheets:**

At the beginning and end of the report, two white blank papers should be provided, one for the Purpose of Binding and other to be left blank.

##### **(h) Content:**

I). Acknowledgement

II). Institute/College/Organization certificate where the project is being developed.

- III).** Table of contents
- IV).** A brief overview of project
- V).** Profiles of problem assigned
- VI).** Study of Existing System
- VII).** System Requirement
- VIII).** Project plan
  - o Team Structure
  - o Development Schedule
  - o Programming language and Development Tools
- IX).** Requirement Specification
- X).** Design
  - o Detailed DFD and Structure Diagram
  - o Data structure, Database and File Specification
- XI).** Project Legacy
  - o Current Status of project
  - o Remaining Areas of concern
  - o Technical and Managerial Lessons Learnt
  - o Future Recommendations
- XII).** Nomenclature and Abbreviations.
- XIII).** Bibliography
- XIV).** Source Code.

**M. G. S. UNIVERISTY, BIKANER**

**SYLLABUS**

**M.Sc.(Computer Science)  
(Semester System)  
Session-2021-22**



**Maharaja Ganga Singh University**

**Bikaner**

**Masters in Computer Science (Semester System)**  
Choice Based Credit System

**Learning Outcome-based Curriculum Framework (LOCF)**

**for**

**M.Sc.(Computer Science)**

**Session 2021-22**  
**Exam 2021 and 2022**

**Department of Computer Science**  
**Maharaja Ganga Singh University, Bikaner**

# Masters in Computer Science (Semester System)

Choice Based Credit System

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| 10    | Assessment & Evaluation                     | 72      |

# Masters in Computer Science (Semester System)

Choice Based Credit System

## Background

Considering the curricular reforms as instrumental for desired learning outcomes, all the academic departments of Maharaja Ganga Singh University Bikaner, made a rigorous attempt to revise the curriculum of postgraduate programs in alignment with National Education Policy-2020 and UGC Quality Mandate for Higher Education Institutions-2021. The process of revising the curriculum could be prompted with the adoption of the “Comprehensive Roadmap for Implementation of NEP-2020”. The Roadmap identified the key features of the Policy and elucidated the Action Plan with well-defined responsibilities and an indicative timeline for major academic reforms.

The process of revamping the curriculum started with a series of webinars and discussions conducted by the University to orient the teachers about the key features of the Policy, enabling them to revise the curriculum in sync with the Policy. Proper orientation of the faculty about the vision and provisions of NEP-2020 made it easier for them to appreciate and incorporate the vital aspects of the Policy in the revised curriculum focused on creating holistic thoughtful, creative, and well-rounded individuals equipped with the key 21st-century skills ‘for the development of an enlightened, socially conscious, knowledgeable, and skilled nation’.

With NEP-2020 in the background, the revised curricula articulate the spirit of the Policy by emphasising upon - an integrated approach to learning; innovative pedagogies and assessment strategies; multidisciplinary and cross-disciplinary education; creative and critical thinking; ethical and Constitutional values through value-based courses; 21st century capabilities across the range of disciplines through life skills, entrepreneurial and professional skills; community and constructive public engagement; social, moral, and environmental awareness; Organic Living and Global Citizenship Education (GCED); holistic, inquiry-based, discovery-based, discussion-based and analysis-based learning; exposure to Indian knowledge system, cultural traditions and literature through relevant courses offering “Knowledge of India, fine blend of modern pedagogies with indigenous and traditional ways of learning; flexibility in course choices, student-centric participatory learning; imaginative and flexible curricular structures to enable creative combinations of disciplines for study; offering multiple entry and exit points, alignment of Vocational courses with the International Standard Classification of Occupations maintained by the International Labor Organization; breaking the silos of disciplines; integration of extra-curricular and curricular aspects, exploring internships with local industry, businesses and artists and craft persons; closer collaboration between industry and higher education institutions for technical, vocational, and science programs, and formative assessment tools to be aligned with the learning outcomes, capabilities, and dispositions as specified for each course. The university has also developed a consensus on Blended Learning with 10% component of online teaching and 60% face-to-face classes for each program.

The revised curricula of various programs could be devised with concerted efforts of the faculty, Heads of the Departments, and the Deans of Schools of Study. The draft prepared by each department was discussed in a series of discussion sessions conducted at the Department, School, and University level. The leadership of the University has been a driving force behind the entire exercise of developing the uniform template and structure for the revised curriculum. The Vice-Chancellor of the University conducted series of meetings with Heads and Deans to deliberate upon the vital parameters of the revised curriculum to formulate a uniform template featuring Background, Programme Outcomes, Programme

# Masters in Computer Science (Semester System)

## Choice Based Credit System

Specific Outcomes, Postgraduate Attributes, Structure of Masters Course, Learning Outcome Index, Semester-wise Courses and Credit Distribution, Course-level Learning Outcomes, Teaching-Learning Process, Blended Learning, Assessment and Evaluation, Keywords, References, and Appendices. The experts of various Board of Studies and School Boards contributed to a large extent in giving the final shape to the revised curriculum of each program.

To ensure the implementation of curricular reforms envisioned in NEP-2020, the University has decided to implement various provisions in a phased manner. Therefore, the curriculum may be reviewed annually so as to gradually include all relevant provisions of NEP-2020.

# Masters in Computer Science (Semester System)

Choice Based Credit System

## Program Outcomes

On completing Masters in the Faculty of Science, the students shall be able to realize the following outcomes:

| PO   | Description   |
|------|---|
| PO1  | Acquired knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, etc.   |
| PO2  | Understood the basic concepts, fundamental principles, and scientific theories related to various scientific phenomena and their relevance in day-to-day life.  |
| PO3  | Acquired the skills in handling scientific instruments, planning, and performing laboratory experiments. The skills of observations and drawing logical inferences from the scientific experiments.                               |
| PO4  | Analyzed the given scientific data critically and systematically and the ability to draw objective conclusions.   |
| PO5  | Been able to think creatively (divergent and convergent) to propose novel ideas in explaining facts and figures or providing new solutions to problems.   |
| PO6  | Realized how developments in any science subject help develop other science subjects and vice-versa and how interdisciplinary approach helps provide better solutions and new ideas for sustainable outcomes.                     |
| PO7  | Developed a scientific outlook concerning science subjects and all aspects related to life.   |
| PO8  | Realized that knowledge of subjects in other faculties such as humanities, performing arts, social sciences, etc., can have greatly and effectively influence, which inspires in evolving new scientific theories and inventions. |
| PO9  | Imbined ethical, moral, and social values in personal and social life, leading to a highly cultured and civilized personality.  |
| PO10 | Developed various communication skills such as reading, listening, speaking, etc., which will help express ideas and views clearly and effectively.   |
| PO11 | Realized that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.   |

# Masters in Computer Science (Semester System)

Choice Based Credit System

## Program Specific Outcomes (PSO)

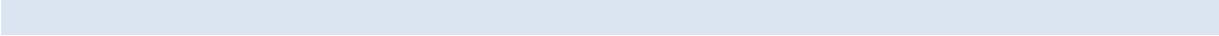
On completing Masters in the M.Sc. in Computer Science, the students shall be able to realize the following outcomes:

| PSO   | Description  |
|-------|--|
| PSO1  | Communicate computer science concepts, designs, and solutions effectively and professionally   |
| PSO2  | Apply knowledge of computing to produce effective designs and solutions for specific problems  |
| PSO3  | Use software development tools, software systems, and modern computing platforms   |
| PSO4  | To have the knowledge and the ability to develop creative solutions  |
| PSO5  | To develop skills to learn new technology  |
| PSO6  | To develop critical reasoning  |
| PSO7  | To apply computer science theory and software development concepts to construct computing-based solutions  |
| PSO8  | To design and develop computer programs/computer-based systems in the area related to algorithms, networking, web design, cloud computing, Artificial Intelligence, Mobile applications  |
| PSO9  | The ability to understand, analyse and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity  |
| PSO10 | The ability to understand the evolutionary changes in computing, apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success, real-world problems, and meet the challenges of the future |
| PSO11 | The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, lifelong learning and a zest for higher studies and also to act as a good citizen by inculcating in them moral values & ethics                           |

## Postgraduate Attributes

# Masters in Computer Science (Semester System)

Choice Based Credit System

- Disciplinary Knowledge
  - Creative & Critical Thinking
  - Reasoning and Analytical abilities
  - Logic/Discrete Mathematics knowledge
  - Logical Thinking
  - Problem analysis and solving abilities
  - Life Skills
  - Moral & Ethical Values
  - Research Skills
- 

# Masters in Computer Science (Semester System)

Choice Based Credit System

## Structure of Masters' Programme

Scheme for  
M.Sc. Computer Science (Semester I)  
Examination 2021  
Session 2021-22

| Semester I   |                               |                                     |            |            |            |                                 |  |   |           |         |
|--|-------------------------------|-------------------------------------|------------|------------|------------|---------------------------------|--|---|-----------|---------|
|  | Course Code                   | Course Title                        | Exam Hours | Max. Marks |            | Min. Marks                      | L  | T | P*        | Credits |
|  |                               |                                     |            | Int. Marks | Ext. Marks |                                 |  |   |           |         |
| <b>Core Courses</b>  |                               |                                     |            |            |            |                                 |  |   |           |         |
| 1  | FS-COMP-<br>MSC-CS-CC-<br>101 | Mathematics for<br>Computer Science | 3          | 10         | 40         | 13<br>(25%)                     | 3  | 1 | 1         | 5       |
| 2  | FS-COMP-<br>MSC-CS-CC-<br>102 | Internet Programming                | 3          | 10         | 40         | 13<br>(25%)                     | 3  | 1 | 1         | 5       |
| 3  | FS-COMP-<br>MSC-CS-CC-<br>103 | Computer Organization               | 3          | 10         | 40         | 13<br>(25%)                     | 3  | 1 | 1         | 5       |
| 4  | FS-COMP-<br>MSC-CS-CC-<br>104 | C++ Programming                     | 3          | 10         | 40         | 13<br>(25%)                     | 3  | 1 | 1         | 5       |
| <b>Foundation Courses</b>  |                               |                                     |            |            |            |                                 |  |   |           |         |
| 5  | FS-COMP-<br>MSC-CS-FC-<br>105 | Computer<br>Fundamentals            | 3          | 50*        | -          | 18<br>(36%)                     | 2  | 2 | 1         | 5       |
| <b>Total Marks</b>   |                               |                                     |            | 40         | 160        |                                 |  |   |           |         |
| <b>Total Theory Marks (A)</b>  |                               |                                     |            | 200        |            | <b>72</b><br>(36%<br>aggregate) | <b>Total Credits</b>                     |   | <b>25</b> |         |
| <b>Practical courses</b>   |                               |                                     |            |            |            |                                 |  |   |           |         |
| 6  | FS-COMP-<br>MSC-CS-CP-<br>106 | Combined Practical                  | 3          | 25         | 75         | 36 (36%<br>aggregate)           | *combined practical of<br>above subjects |   |           |         |
| <b>Total Practical Marks (B)</b>   |                               |                                     |            | 100        |            |                                 |  |   |           |         |
| <b>Grand Total (A+B)</b>   |                               |                                     |            | 300        |            |                                 |  |   |           |         |
| *Audit course. The candidate will have to qualify the paper by the time he / she qualifies for the Programme. He/She can avail maximum 4 chances along with the Semester Examinations. |                               |                                     |            |            |            |                                 |  |   |           |         |

Scheme for  
M.Sc. Computer Science (Semester II)  
Examination 2022  
Session 2021-22

| Semester II         |             |              |            |            |            |            |   |   |    |         |
|---------------------|-------------|--------------|------------|------------|------------|------------|---|---|----|---------|
|                     | Course Code | Course Title | Exam Hours | Max. Marks |            | Min. Marks | L | T | P* | Credits |
|                     |             |              |            | Int. Marks | Ext. Marks |            |   |   |    |         |
| <b>Core Courses</b> |             |              |            |            |            |            |   |   |    |         |

# Masters in Computer Science (Semester System)

## Choice Based Credit System

|  |                               |                                   |   |     |     |                              |                                       |   |           |   |
|--|-------------------------------|-----------------------------------|---|-----|-----|------------------------------|---------------------------------------|---|-----------|---|
| 1  | FS-COMP-<br>MSC-CS-CC-<br>201 | Database Management System        | 3 | 10  | 40  | 13<br>(25%)                  | 3                                     | 1 | 1         | 5 |
| 2  | FS-COMP-<br>MSC-CS-CC-<br>202 | Data Communication and Networking | 3 | 10  | 40  | 13<br>(25%)                  | 3                                     | 1 | 1         | 5 |
| 3  | FS-COMP-<br>MSC-CS-CC-<br>203 | Operating System                  | 3 | 10  | 40  | 13<br>(25%)                  | 3                                     | 1 | 1         | 5 |
| 4  | FS-COMP-<br>MSC-CS-CC-<br>204 | Ethical Hacking                   | 3 | 10  | 40  | 13<br>(25%)                  | 3                                     | 1 | 1         | 5 |
| <b>Foundation Course</b>   |                               |                                   |   |     |     |                              |                                       |   |           |   |
| 5  | FS-COMP-<br>MSC-CS-FC-<br>205 | Human and National Values         | 3 | 50* | -   | 18<br>(36%)                  | 2                                     | 2 | 1         | 5 |
| <b>Total Marks</b>   |                               |                                   |   | 40  | 160 |                              |                                       |   |           |   |
| <b>Total Theory Marks (A)</b>  |                               |                                   |   | 200 |     | <b>72</b><br>(36% aggregate) | <b>Total Credits</b>                  |   | <b>25</b> |   |
| <b>Practical Courses</b>   |                               |                                   |   |     |     |                              |                                       |   |           |   |
| 6  | FS-COMP-<br>MSC-CS-CP-<br>206 | Combined Practical                | 3 | 25  | 75  | 36 (36% aggregate)           | *combined practical of above subjects |   |           |   |
| <b>Total Practical Marks (B)</b>   |                               |                                   |   | 100 |     |                              |                                       |   |           |   |
| <b>Grand Total (A+B)</b>   |                               |                                   |   | 300 |     |                              |                                       |   |           |   |
| *Audit course. The candidate will have to qualify the paper by the time he / she qualifies for the Programme. He/She can avail maximum 4 chances along with the Semester Examinations. |                               |                                   |   |     |     |                              |                                       |   |           |   |

**Scheme for  
M.Sc. Computer Science (Semester III)  
Examination 2022  
Session 2021-22**

| <b>Semester III</b>          |                               |                 |            |            |            |             |   |   |    |         |
|------------------------------|-------------------------------|-----------------|------------|------------|------------|-------------|---|---|----|---------|
|                              | Course Code                   | Course Title    | Exam Hours | Max. Marks |            | Min. Marks  | L | T | P* | Credits |
|                              |                               |                 |            | Int. Marks | Ext. Marks |             |   |   |    |         |
| <b>Core Courses</b>          |                               |                 |            |            |            |             |   |   |    |         |
| 1                            | FS-COMP-<br>MSC-CS-CC-<br>301 | Data Structures | 3          | 10         | 40         | 13<br>(25%) | 3 | 1 | 1  | 5       |
| 2                            | FS-COMP-<br>MSC-CS-CC-<br>302 | Java            | 3          | 10         | 40         | 13<br>(25%) | 3 | 1 | 1  | 5       |
| <b>Core Elective Courses</b> |                               |                 |            |            |            |             |   |   |    |         |

# Masters in Computer Science (Semester System)

Choice Based Credit System

|                                  |                               |   |   |     |     |                                 |                                       |   |           |   |
|----------------------------------|-------------------------------|---|---|-----|-----|---------------------------------|---------------------------------------|---|-----------|---|
| 3                                | FS-COMP-<br>MSC-CS-CE-<br>303 | a) Software Engineering & Research Methodology<br>b) Artificial Intelligence<br>c) Python<br>d) Theory of Computation       | 3 | 10  | 40  | 13<br>(25%)                     | 3                                     | 1 | 1         | 5 |
| <b>Elective Open Courses</b>     |                               |   |   |     |     |                                 |                                       |   |           |   |
| 4                                | FS-COMP-<br>MSC-CS-EO-<br>304 | a) Data Analysis Using R<br>b) Introduction to LaTeX<br>c) Natural Language Processing<br>d) Introduction to Cyber Security | 3 | 10  | 40  | 13<br>(25%)                     | 3                                     | 1 | 1         | 5 |
| <b>Total Marks</b>               |                               |   |   | 40  | 160 |                                 |                                       |   |           |   |
| <b>Total Theory Marks (A)</b>    |                               |   |   | 200 |     | <b>72</b><br>(36%<br>aggregate) | <b>Total Credits</b>                  |   | <b>25</b> |   |
| <b>Practical Courses</b>         |                               |   |   |     |     |                                 |                                       |   |           |   |
| 5                                | FS-COMP-<br>MSC-CS-CP-<br>305 | Combined Practical  | 3 | 25  | 75  | 36 (36%<br>aggregate)           | *combined practical of above subjects |   |           |   |
| <b>Total Practical Marks (B)</b> |                               |   |   | 100 |     |                                 |                                       |   |           |   |
| <b>Grand Total (A+B)</b>         |                               |   |   | 300 |     |                                 |                                       |   |           |   |

**Scheme for  
M.Sc. Computer Science (Semester IV)  
Examination 2022  
Session 2021-22**

| <b>Semester IV</b>           |                               |                                |            |            |            |             |   |   |    |         |
|------------------------------|-------------------------------|--------------------------------|------------|------------|------------|-------------|---|---|----|---------|
|                              | Course Code                   | Course Title                   | Exam Hours | Max. Marks |            | Min. Marks  | L | T | P* | Credits |
|                              |                               |                                |            | Int. Marks | Ext. Marks |             |   |   |    |         |
| <b>Core Courses</b>          |                               |                                |            |            |            |             |   |   |    |         |
| 1                            | FS-COMP-<br>MSC-CS-CC-<br>401 | Computer Graphics & Multimedia | 3          | 10         | 40         | 13<br>(25%) | 3 | 1 | 1  | 5       |
| 2                            | FS-COMP-<br>MSC-CS-CC-<br>402 | Android Programming            | 3          | 10         | 40         | 13<br>(25%) | 3 | 1 | 1  | 5       |
| <b>Core Elective Courses</b> |                               |                                |            |            |            |             |   |   |    |         |

# Masters in Computer Science (Semester System)

## Choice Based Credit System

|                                  |                                 |   |   |     |     |                                 |  |   |           |     |
|----------------------------------|---------------------------------|---|---|-----|-----|---------------------------------|--|---|-----------|-----|
| 3                                | FS-COMP-<br>MSC-CS-CE-<br>403   | a) Cloud Computing<br>b) Internet of Things<br>c) Big Data & Data Mining<br>d) Machine Learning | 3 | 10  | 40  | 13<br>(25%)                     | 3  | 1 | 1         | 5   |
| <b>Elective Open Courses</b>     |                                 |   |   |     |     |                                 |  |   |           |     |
| 4                                | FS-COMP-<br>MSC-CS-EO-<br>404 * | a) Research Project<br>b) Review<br>c) Dissertation<br>d) Internship                            | 3 | 10  | 40  | 13<br>(25%)                     | 3  | 1 | 1         | 5** |
| <b>Total Marks</b>               |                                 |   |   | 40  | 160 |                                 |  |   |           |     |
| <b>Total Theory Marks (A)</b>    |                                 |   |   | 200 |     | <b>72</b><br>(36%<br>aggregate) | <b>Total Credits</b>                     |   | <b>25</b> |     |
| <b>Practical Courses</b>         |                                 |   |   |     |     |                                 |  |   |           |     |
| 5                                | FS-COMP-<br>MSC-CS-CP-<br>405   | Combined Practical  | 3 | 25  | 75  | 36 (36%<br>aggregate)           | *combined practical of<br>above subjects |   |           |     |
| <b>Total Practical Marks (B)</b> |                                 |   |   | 100 |     |                                 |  |   |           |     |
| <b>Grand Total (A+B)</b>         |                                 |   |   | 300 |     |                                 |  |   |           |     |

\*10 min presentation/viva voce of each student

\*\* Teacher guide shall decide the hrs required for carrying out the decided Research Project/ Review/Case Study by the allotted student(s) in the forms of lecture, tutorial and lab work as per the requirement of the study topic.

### Learning Outcome Index

Learning Outcomes are statements of knowledge, skills, and abilities a student should possess and demonstrate upon completion of learning experiences.

#### I. Programme Outcomes(PO) and Programme Specific Outcomes (PSO)

|      | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 | PSO7 | PSO8 | PSO9 | PSO10 | PSO11 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|
| PO1  | x    | x    | x    | x    | x    | x    | x    | x    |      | x     | x     |
| PO2  | x    |      | x    |      | x    | x    | x    | x    | x    | x     | x     |
| PO3  | x    | x    | x    |      | x    | x    | x    | x    | x    | x     | x     |
| PO4  | x    | x    | x    | x    | x    | x    |      | x    | x    | x     | x     |
| PO5  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x     | x     |
| PO6  | x    | x    | x    | x    | x    | x    | x    |      |      | x     | x     |
| PO7  |      |      |      | x    | x    |      | x    |      | x    | x     | x     |
| PO8  |      | x    |      | x    |      | x    | x    | x    |      |       | x     |
| PO9  | x    | x    |      | x    | x    |      | x    | x    |      |       | x     |
| PO10 | x    | x    | x    |      | x    |      |      |      | x    |       | x     |
| PO11 | x    | x    | x    |      | x    | x    | x    | x    | x    | x     | x     |

#### II. Programme Specific Outcomes (PSO) and Core Courses (CC)

|       | MC<br>S<br>101 | MCS<br>102 | MC<br>S<br>103 | MCS<br>104 | MCS<br>201 | MCS<br>202 | MCS<br>203 | MCS<br>204 | MCS<br>301 | MCS<br>302 | MCS<br>401 | MCS<br>402 |
|-------|----------------|------------|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| PSO1  | x              | x          | x              | x          | x          | x          | x          | x          | x          | x          | x          | x          |
| PSO2  | x              | x          | x              | x          | x          | x          | x          | x          | x          | x          | x          | x          |
| PSO3  |                | x          |                | x          | x          |            |            | x          | x          | x          |            | x          |
| PSO4  | x              | x          | x              | x          | x          | x          | x          | x          | x          | x          | x          | x          |
| PSO5  | x              | x          | x              | x          | x          | x          | x          | x          | x          | x          | x          | x          |
| PSO6  | x              |            | x              |            | x          | x          | x          |            |            |            | x          |            |
| PSO7  | x              | x          | x              | x          | x          | x          | x          | x          | x          | x          | x          | x          |
| PSO8  |                | x          |                | x          | x          |            |            | x          | x          | x          |            | x          |
| PSO9  |                | x          | x              | x          | x          |            |            | x          | x          | x          | x          | x          |
| PSO10 | x              | x          | x              | x          | x          | x          | x          | x          | x          | x          | x          | x          |
| PSO11 | x              | x          | x              | x          | x          | x          | x          | x          | x          | x          | x          | x          |

# Masters in Computer Science (Semester System)

## Choice Based Credit System

### II. Programme Specific Outcomes (PSO) and Core Elective Courses (CEC)

|           | MCS<br>303a | MCS<br>303b | MCS<br>303c | MCS<br>303d | MCS<br>403a | MCS<br>403b | MCS<br>403c | MCS<br>403d |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| PSO1      | x           | x           | x           | x           | x           | x           | x           | x           |
| PSO2      | x           | x           | x           | x           | x           | x           | x           | x           |
| PSO3      | x           |             | x           |             | x           |             | x           |             |
| PSO4      | x           | x           | x           | x           | x           | x           | x           | x           |
| PSO5      | x           | x           | x           | x           | x           | x           | x           | x           |
| PSO6      |             | x           |             | x           |             | x           |             | x           |
| PSO7      | x           | x           | x           | x           | x           | x           | x           | x           |
| PSO8      | x           |             | x           |             | x           |             | x           |             |
| PSO9      | x           | x           | x           | x           | x           | x           | x           | x           |
| PSO<br>10 | x           | x           | x           | x           | x           | x           | x           | x           |
| PSO<br>11 | x           | x           | x           | x           | x           | x           | x           | x           |

### IV. Programme Specific Outcomes (PSO) and Open Elective Courses (OEC)

|           | MCS<br>305a | MCS<br>305b | MCS<br>405a | MCS<br>405b |
|-----------|-------------|-------------|-------------|-------------|
| PSO1      | x           | x           | x           | x           |
| PSO2      | x           | x           | x           | x           |
| PSO3      | x           |             | x           |             |
| PSO4      | x           | x           | x           | x           |
| PSO5      | x           | x           | x           | x           |
| PSO6      |             | x           |             | x           |
| PSO7      | x           | x           | x           | x           |
| PSO8      | x           |             | x           |             |
| PSO9      | x           | x           | x           | x           |
| PSO<br>10 | x           | x           | x           | x           |
| PSO<br>11 | x           | x           | x           | x           |

### Objectives, Course-level Learning Outcomes, Contents, and Suggested Readings

#### Semester I

**Paper Code:FS-COMP-MS-C-CC-101**

**Paper Name: Mathematics for Computer Science**

#### Course Objectives:

- CO1. To learn to evaluate mathematical arguments revolving around computation
- CO2. To understand the basics of Combinations and Permutations
- CO3. To acquire the ability to represent relations matrices and digraphs
- CO4. To acquire and apply the knowledge on Graphs and Trees to real-world applications
- CO5. To have the ability to Demonstrate the working of Grammars and Languages

#### Learning Outcomes:

After completion of this course, the student will be able to-

- LO1. Comprehend and evaluate mathematical arguments revolving around computation.
- LO2. Understand the basics of Combinations and Permutations.
- LO3. Represent relations matrices and digraphs.
- LO4. Apply the knowledge on Graphs and Trees to real-world applications.
- LO5. Demonstrate the working of Grammars and Languages.

**Note:** Non-Scientific Calculator may be allowed in the end-semester examination.

#### Course Description

#### Unit – I

**Sets:** different types of sets, set operations; Basic Counting Principles, Pigeonhole Principle, Binomial Coefficients, Binomial Theorem, Permutations, Combinations; **Matrices:** addition, multiplication; **Vectors:** position vector, addition, subtraction and products of vectors.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

### Unit - II

Mathematical Induction; **Logic:** Propositions and logical operations, Conditional statements, Tautologies and Contradictions, Logical Equivalence, quantifiers. Basic computability theory: Chomsky Hierarchy, the concept of models of computation, the concept of types of languages and grammars.

### Unit - III

**Relations:** Representation of Relations, Properties of relations, transitive closure; Ordered Sets: poset, Properties, Hasse Diagram, Extremal elements of posets; **Functions:** Types of Functions, Asymptotic notations; Coordinate Systems: representation of points, straight lines, standard equation of circles.

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### Recommended Readings

1. K.H. Rosen, Discrete Mathematics and its applications, seventh edition
2. Kolman, Busby and Ross, Discrete Mathematical Structures, Sixth Edition, PHI.

### Suggested Readings

3. Schaum's Outline Of Theory and Problems of Discrete Mathematics, Third Edition.
4. C L Liu, Elements of Discrete Mathematics, TMH,
5. John Vince, Foundation Mathematics for Computer Science: A Visual Approach, Springer
6. George B. Thomas and Ross L. Finney, Calculus and Analytic Geometry, Addison Wesley
7. J. Ullman and J. Hopcroft , Introduction to Automata Theory, Languages, and Computation, Pearson Education
8. Daniel I.A. Cohen, Introduction to Computer Theory, 2ed, Wiley.
9. Peter Linz, An Introduction to Formal Languages and Automata, Sixth edition.

**Paper Code: FS-COMP-MS-C-CC-102**

**Paper Name: Internet Programming**

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### Course Objectives -

- CO1. To gain knowledge of how the client-server model of Internet programming works
- CO2. To learn design and development of interactive, client-side, executable web applications
- CO3. To acquire the ability to demonstrate how Internet programming tasks are accomplished
- CO3: To know how to build tools that assist in automating data transfer over the Internet.
- CO4: To understand the advantages and disadvantages of the core Internet protocols

### Learning Outcomes:

After completion of this course, the student will be able to-

- LO1: Explain how the client-server model of Internet programming works
- LO2: Design and develop interactive, client-side, executable web applications
- LO3: Demonstrate how Internet programming tasks are accomplished
- LO3: Build tools that assist in automating data transfer over the Internet
- LO4: Compare the advantages and disadvantages of the core Internet protocols

### Course Description

#### Unit I

Internet Basics: Evolution of the Internet, Basic internet terms and applications. ISP, Anatomy of an e-mail Message, basics of sending and receiving, E-mail Protocol; Mailing List- Subscribing, Unsubscribing. Introduction to World Wide Web and its work, Web Browsers, Search Engine, Downloading, HyperText Transfer Protocol (HTTP), URL, Web Servers, FTP, Web publishing- Domain Name Registration, Space on Host Server for Web Site, Maintain and Updating.

#### Unit - II

HTML: Elements of HTML & Syntax, Comments, Headings, Paragraph, Span, Pre Tags, Backgrounds, Formatting tags, Images, Hyperlinks, div tag, List Type and its Tags, Table Layout, Use of Forms in Web Pages. CSS: Introduction to Cascading Style Sheets, Types of Style Sheets (Inline, Internal and External), using Id and classes, CSS properties: Background Properties, Box Model Properties, Margin, Padding, List Properties, Border Properties, Positioning Properties.

#### Unit - III

Java Script: Introduction to Client-Side Scripting, Introduction to JavaScript, Comments, Variables in JS, Global Variables, Data types, Operators in JS, Conditions Statements (If, If Else, Switch), JavaScript Loops (For Loop, While Loop, Do While Loop), JS Popup Boxes (Alert, Prompt, Confirm), JS Events, Onload, Onunload, Onsubmit, Onfocus, Onchange Event, Onblur Event, Onmouseover, Onclick, Ondblclick Events, JS Arrays, Working with Arrays, JS Objects, Window object, Document object, JS Functions, getElementById, innerHTML property, innerText property, form validation, email validation.

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# Masters in Computer Science (Semester System)

## Choice Based Credit System

### Recommended Readings

1. Thomas A. Powell, HTML: The Complete Reference, Osborne/McGraw-Hill
2. Deitel, Deitel and Nieto, Internet & WWW. How to program, 2<sup>nd</sup> Edition, Pearson Education Asia.

### Suggested Readings

3. E Stephen Mack, Janan Platt, HTML 4.0, No Experience Required, 1998, BPB Publications.
4. Sybex, HTML Complete, BPB Publications.
5. V.K Jain, Internet and Web Page Designing, BPB Publications.
6. Ivan Bayross, Web Enabled Commercial Application Development Using HTML, DHTML, java script, Perl CGI, BPB publications.

**Paper Code:FS-COMP-MS-C-CC-103**

**Paper Name: Computer Organization**

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### Course Objectives:

- CO1: To understand the structure, function, and characteristics of computer systems.  
CO2: To understand the design of the various functional units and components of computers.  
CO3: To Identify the elements of modern instruction sets and their impact on processor design.  
CO4: To acquire the ability to explain the function of each element of a memory hierarchy,  
CO5: To identify and compare different methods for computer I/O

### Learning Outcomes:

After completion of this course, the student will be able to-

- LO1: Understand the structure, function, and characteristics of computer systems.  
LO2: Understand the design of the various functional units and components of computers.  
LO3: Identify the elements of modern instruction sets and their impact on processor design.  
LO4: Explain the function of each element of a memory hierarchy,  
LO5: Identify and compare different methods for computer I/O.
- 

### Unit I

**Components of a Computer:** Processor, Memory, Input-Output Unit, Difference between Organization and Architecture, Hardware-Software Interaction. **Number System:** Concept of Bit and Byte, types, and conversion. **Complements:** 1's complement, 2's complement. **Binary Arithmetic:** Addition, overflow, subtraction, multiplication (booth's algorithm), and division algorithm. **Logic gates:** Boolean Algebra, Map Simplification.

### Unit II

**Combinational circuits:** Half Adder, Full Adder, Decoders, Multiplexers. **Sequential circuits:** Flip Flops- SR, JK, D, T Flip-Flop, Excitation Tables, State Diagram, State Table, Registers, Counters.

**Input-Output Organization:** Peripheral devices, I/O Interface, Asynchronous Data Transfer, Modes of Data Transfer, Priority Interrupt, Direct Memory Access, I/O Processor.

**Memory Organization:** Types and capacity of Memory, Memory Hierarchy, Associative Memory, Buffer, Cache Memory, Virtual Memory.

### Unit III

**Intel 8085 Microprocessor:** Introduction, ALU, Timing and Control Unit, Register Set, Data and Address Bus, Addressing modes, Complete Intel 8085 Instruction set, Instruction format, Opcode and Operand, Word Size, Instruction Cycle, Pin Configuration, Intel 8085 programs.

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### Recommended Readings

1. M. Morris Mano, Computer System Architecture, Pearson, Prentice Hall.
2. J.P. Hayes, Computer Architecture & Organization, Tata McGraw Hill

### Suggested Readings

3. Malvino Leach and Jerald A. Brown, Digital Computer Electronics, McGraw Hill.
4. Ramesh Gaonkar, Microprocessor Architecture, Programming, and Application With the 8085, PENRAM.
5. B.Ram, Fundamentals of Microprocessor and Microcomputers, Danpat Rai Publications.

**Paper Code:FS-COMP-MS-C-CC-104**

**Paper Name : C++ Programming**

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### Course Objectives:

- CO1. To declare, initialize and process variables, constants, and arrays  
CO2. To read and print values from the keyboard using Scanner and Dialog boxes  
CO3. To create statements for decisions and loops  
CO4. To define functions and return values

# Masters in Computer Science (Semester System)

## Choice Based Credit System

- CO5. To create classes, objects, and constructors
- CO6. To understand and apply OO design concepts
- CO7. To create, open, manipulate and close files using Streams
- CO8. To create applets for drawing shapes and playing audio clips

### Learning Outcomes:

After completion of this course, the student will be able to-

- LO1. Declare, initialize and process variables, constants, and arrays
- LO2. Read and print values from the keyboard using Scanner and Dialog boxes
- LO3. Create statements for decisions and loops
- LO4. Define functions and return values.
- LO5. Create classes, objects, and constructors.
- LO6. Understand and apply OO design concepts.
- LO7. Create, open, manipulate and close files using Streams.
- LO8. Create applets for drawing shapes and playing audio clips.

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### Unit I

**Object-Oriented System** Object-Oriented Paradigm: need, characteristics, applications. Basics of C++, branching, looping, and jump statements. **Functions:** need, types, passing arguments by value and reference, recursive function, pointers, and functions. **Arrays:** need, types, array and function, array and pointers.

### Unit II

**Class:** Basics, static data members, Inline Function, Constructors and Destructors: need, types, usage, **Inheritance** - need, usage, types, compile-time and run-time polymorphism, overloading and overriding, virtual function, friend function, abstract class. **Operator overloading:** need, rules, through member function and through friend function.

### Unit III

String handling, String class, Templates, Additional Features for C++ 11, C++14 and C++17 Searching and Sorting: **Searching:** Linear Search, Binary Search. **Sorting:** Insertion Sort, Selection Sort, Quick Sort, Bubble Sort, Heap Sort, Shell Sort, Merge sort, Radix Sort, Counting Sort, Bucket Sort.

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### Recommended Readings

1. E. Balagurusamy, Object-Oriented Programming With C++ , Tata Mcgraw Hill.
2. Herbert Schildt, C++ The Complete Reference, Tata Mcgraw Hill.

### Suggested Readings

3. Schaum Series, Object Oriented Programming With C++, Tata Mcgraw Hill.
4. Paul J. Deitel and Harvey M. Deitel, C++11 for Programmers (Deitel Developer), Prentice Hall; 2nd edition.
5. Marc Gregoire, Nicholas A. Solter and Scott J.Kleper, Professional C++, Goodreads Publications.
6. Bjarne Stroustrup, A Tour of C++.
7. Bartłomiej Filipek, C++17 in Detail.

**Paper Code:FS-COMP-MS-C-FC-106**

**Paper Name: Computer Fundamentals**

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### Course Objectives:

- CO1. To understand the characteristics of computers
- CO2. To know about the generations of computers
- CO3. To have knowledge about computer languages
- CO4. To understand the basics of an operating system
- CO5. To be acquaint with word processor, spreadsheet, and presentation
- CO6. To understand and apply the concept of algorithms and algorithm analysis
- CO7. To know about some unsolved problems of computer science

### Learning Outcomes:

After completion of this course, the student will be able to-

- LO1. Understanding of the characteristics of computers
- LO2. Know about the generations of computers
- LO3. Having knowledge of computer languages
- LO4. Understanding of the basics of operating system
- LO5. Acquaintance with word processor, spreadsheet, and presentation
- LO6. Understanding and ability to design algorithms
- LO7. Know about some unsolved problems of computer science

# Masters in Computer Science (Semester System)

## Choice Based Credit System

### Unit I

Basics: Block Diagram, characteristics, generations of computers, classification of computers; Binary number system, Limitations of Computers, Primary and secondary memory, Input and output devices; Computer languages: Machine language, assembly language, higher-level language, 4GL. Introduction to Compiler, Interpreter, Assembler, System Softwares, Application Softwares. Operating System: Features of Windows, Linux, Macintosh, Android. Open-source software: concept and examples.

### Unit II

Word Processing software: different formats for saving a word document, creating, editing documents and related operations, formatting features and related operations, spelling and grammar checker, headers and footers, creating and managing tables; printing, macros, mail merge, equation editor. Spreadsheet Software: Workbook, worksheets, data types, operators, cell formats, freeze panes, editing features, formatting features, creating formulas, using formulas, cell references.

### Unit III

Presentation Graphics Software: Templates, views, formatting slides, slides with graphs, animation, using special features, presenting slide shows. Computer Problem Solving: Algorithms, Efficiency, and analysis of algorithms Writing algorithms for simple problems like factorial computation, generation of the Fibonacci sequence, and checking for prime number; Examples of unsolved problems in Computer Science.

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### Recommended Readings

1. P.K Sinha, Computer Fundamentals, BPB Publications.
2. Rajaraman, Fundamentals of Computers, Fourth Edition, Prentice-Hall India Pvt. Limited.

### Suggested Readings

3. Peter Norton, Introduction to Computers, 4th Edition, TMH Ltd, New Delhi.
4. R.G. Dromey, How to solve it by Computers, Pearson Publishers, New Delhi.
5. Dorothy House, Microsoft Word, Excel, and PowerPoint: Just for Beginners.

### Web resources:

1. <https://documentation.libreoffice.org/en/english-documentation/getting-started-guide/>
2. <https://www.coursera.org/learn/creative-problem-solving>
3. <http://web.mit.edu/rsi/www/pdfs/new-latex.pdf>
4. <https://www.latex-project.org/help/books/>
5. <https://support.google.com/docs/?hl=en#topic=1382883>
6. [https://en.wikipedia.org/wiki/List\\_of\\_unsolved\\_problems\\_in\\_computer\\_science](https://en.wikipedia.org/wiki/List_of_unsolved_problems_in_computer_science)
7. <https://www.claymath.org/millennium-problems>

### Semester II

**Paper Code: FS-COMP-MSC-CS-CC-201**

**Paper Name: Database Management System**

### Course Objectives:

- CO1: To understand the need for a DB approach and understand the components and roles of DBMS
- CO2: To know how to write SQL queries for the given problem statement
- CO3: To apply DB system development life cycle to business problems
- CO4: To develop ER diagram for representing the conceptual data model
- CO5: To convert ER diagram into a set of relations representing the logical data model
- CO6: To implement a collection of ties in the chosen DBMS product, such as ORACLE
- CO7: To have a broad understanding of database concepts and database management system software
- CO8: To have a high-level experience of major DBMS components and their function
- CO9: To be able to model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model.
- CO10: To be able to write SQL commands to create tables and indexes, insert/update/delete data, and query data in a relational DBMS.
- CO11: To understand detailed architecture, define objects, load data, query data, and performance tune SQL databases.
- CO12: To be able to handle large volumes of structured, semi-structured, and unstructured data using database technologies.

### Learning Outcomes:

After completion of this course, the student will be able to-

- LO1: Appreciate the need for a DB approach and understand the components and roles of DBMS
- LO2: Write SQL queries for the given problem statement
- LO3: Apply DB system development life cycle to business problems
- LO4: Develop ER diagram for representing the conceptual data model

# Masters in Computer Science (Semester System)

## Choice Based Credit System

- LO5: Convert ER diagram into a set of relations representing the logical data model
- LO6: Implement a collection of ties in the chosen DBMS product, such as ORACLE
- LO7: Have a broad understanding of database concepts and database management system software
- LO8: have a high-level experience of major DBMS components and their function
- LO9: be able to model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model.
- LO10: be able to write SQL commands to create tables and indexes, insert/update/delete data, and query data in a relational DBMS.
- LO11: To understand detailed architecture, define objects, load data, query data, and performance tune SQL databases.
- LO12: Able to handle large volumes of structured, semi-structured, and unstructured data using database technologies.

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### Unit I

**Introduction:** Characteristics of database approach, Advantages, Database system architecture, Overview of different types of Data Models and data independence, Schemas and instances, Database languages and interfaces; **E-R Model:** Entities, Attributes, keys, Relationships, Roles, Dependencies, E-R Diagram; Normalization: Definition, Functional dependencies and inference rules, 1NF, 2NF, 3NF, and BCNF.

### Unit II

**Introduction to Relational model,** Constraints: Domain, Key, Entity integrity, Referential integrity; Keys: Primary, Super, Candidate, Foreign; **Relational algebra:** select, project, union, intersection, minus, cross product, different types of join, division operations; aggregate functions and grouping; **SQL: Data Types, statements:** select, insert, update, delete, create, alter, drop; views, SQL algebraic operations, nested queries; **Stored procedures:** Advantages, Variables, creating and calling procedures, if and case statements, loops, Cursors, Functions, Triggers.

### Unit III

**Transactions processing:** Definition, desirable properties of transactions, serial and non-serial schedules, the concept of serializability, conflict-serializable schedules; **Concurrency Control:** Two-phase locking techniques, dealing with Deadlock and starvation, deadlock prevention protocols, basic timestamp ordering algorithm; Overview of database recovery techniques; the concept of data warehousing.

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### Recommended Readings

1. Ramez A. Elmasri, Shamkant Navathe, Fundamentals of Database Systems, 5<sup>th</sup> Ed, Pearson Publications.
2. Korth, Silberschatz, Sudarshan, Database System Concepts, Mcgraw Hill.

### Suggested Readings

3. Bipin C. Desai, An Introduction to Database Systems, Galgotia Publication.
4. Ivan Bayross, SQL, PL/SQL Programming, BPB publications.
5. Ivan Bayross, Commercial Application Development Using Oracle Developer 2000, BPB publications.

### Web Resources

1. <http://www.mysqltutorial.org/mysql-stored-procedure-tutorial.aspx>

**Paper Code:** FS-COMP-MSC-CS-CC-202

**Paper Name:** Data Communication and Networking

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### Course

### Objectives:

After completion of this course the student will be able to-

- CO1. To gain the ability to create a new protocol and test its efficiency
- CO2. To design a new network architecture using protocols and interfaces
- CO3. To create a hybrid topology using the existing topologies, and check inefficiency
- CO4. To apply different encoding and decoding mechanisms involved in various types of transmission media and measure the transmission impairments
- CO5. To design a model internet with various categories of networks and test the transmission rate
- CO6. To understand the basics of data communication, networking, the internet, and their importance
- CO7. To analyze the services and features of various protocol layers in data networks
- CO8. To differentiate wired and wireless computer networks
- CO9. To analyze TCP/IP and their protocols
- CO10. To recognize the different internet devices and their functions
- CO11. To identify the primary security threats of a network

### Learning Outcomes:

After completion of this course the student will be able to-

- LO1. Create a new protocol and test its efficiency.
- LO2. Design a new network architecture using protocols and interfaces.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

- LO3. Create a hybrid topology using the existing topologies, and check inefficiency.
- LO4. Apply different encoding and decoding mechanisms involved in various types of transmission media and measure the transmission impairments.
- LO5. Design a model internet with various categories of networks and test the transmission rate.
- LO6. Understand the basics of data communication, networking, the internet, and their importance.
- LO7. Analyze the services and features of various protocol layers in data networks.
- LO8. Differentiate wired and wireless computer networks.
- LO9. Analyze TCP/IP and their protocols.
- LO10. Recognize the different internet devices and their functions.
- LO11. Identify the primary security threats of a network.

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### Unit - I

**Data Communication and Networking:** Overview, Network Types, LAN Technologies, Topologies, Models-OSI Model, TCP/IP Stack, Security

**Physical Layer:** Introduction, Impairments, Performance, Digital Transmission, modes, digital to digital, analog to digital, Analog Transmission, digital to analog, analog to analog, Transmission media, Wireless Transmission, Multiplexing, FDM, TDM, CDM, WDM, **Switching techniques:** Circuit Switching, Packet switching, Datagram, Virtual circuit, and Permanent Virtual Circuit, Connectionless and connection-oriented communication, Message switching,

### Unit - II

**Data Link Layer:** Introduction, Error Detection, and Correction, Data Link Control: Line Discipline- Enq/Ack, Poll/Select, **Flow Control:** Stop And Wait, Sliding Window, **Error Control:** ARQ, Stop and Wait ARQ, Sliding Window ARQ.

**Network Layer:** Introduction, Network Addressing, Routing, Internetworking, Tunneling, Packet Fragmentation, Network Layer Protocols, ARP, ICMP, IPv4, IPv6

**Transport Layer:** Introduction, Function, End to end communication, Transmission Control Protocol, User Datagram Protocol

**Application Layer:** Introduction, Client-Server Model, Application Protocols, Network Services

### Unit - III

**Cyber Security:** definition, cybercrime and information security, cybercriminals, classification of cybercrime. Cyber offenses: categories of cybercrime.

**Tools and methods used in cybercrime:** phishing, types of phishing, types, and techniques of ID theft, password cracking, keyloggers and spyware, backdoors, steganography, DoS, SQL Injection.

**Cybercrime on mobile and wireless devices:** attacks on wireless networks, Authentication security service, attacks on mobile phones. Cyber Law, The Indian IT Act, Digital Signatures, Anti- Cybercrime Strategies, Cyberterrorism, Indian ITA 2000.

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### Recommended Readings

1. Nina Godbole & Sunit Belapur, Cyber Security.
2. Forozan, Data Communication and Networking, Tata McGraw Hill.

### Suggested Readings

3. Dr. Madhulika Jain, Satish Jain, Data Communication And Computer Networks, BPB publications.
4. William Stallings, Data and Computer Communications, Pearson Education.
5. A. S. Tanenbaum, Computer Networks, Fourth Edition, Pearson Education.

**Paper Code:FS-COMP-MSC-CS-CC-203**

**Paper Name: Operating System**

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### Course Objectives:

CO1. To be able to design and understand the following OS components: System calls, Schedulers, Memory management systems, Virtual Memory, and Paging systems.

CO2. To be able to evaluate, and compare OS components through instrumentation for performance analysis.

CO3. To analyze the various device and resource management techniques for time-sharing and distributed systems

CO4. To develop and analyze simple concurrent programs using transactional memory and message passing, and understand the trade-offs and implementation decisions

### Learning Outcome:

After completion of this course, the student will be able to-

- LO1. Allocate Main Memory based on various memory management techniques
- LO2. Compare Memory allocation using Best fit, Worst fit, and first hold policies
- LO3. Apply page replacement policies for dynamic memory management
- LO4. Schedule CPU time using scheduling algorithm for processors

# Masters in Computer Science (Semester System)

## Choice Based Credit System

LO5. Compare various device scheduling algorithms. serve

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### Unit I

Introduction to Operating System, layered Structure, Functions, Types; Process: Concept, Process States, PCB; Threads, System calls; Process Scheduling: types of schedulers, context switch, CPU Scheduling, Preemptive Scheduling, Scheduling Criteria- CPU Utilization, Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling Algorithms- FCFS, SJF, Priority Scheduling, Round Robin Scheduling, MLQ Scheduling, MLQ With Feedback.

### Unit II

Synchronization: Critical Section Problem, Requirements for a solution to the critical section problem; Semaphores, simple solution to Readers-Writers Problem. Deadlock: Characterization, Prevention, Avoidance, Banker's Algorithm, Recovery from Deadlock. Memory Management: Physical and virtual address space, Paging, Overview of Segmentation; Virtual Memory Management: Concept, Page Replacement techniques- FIFO, LRU, Optimal

### Unit III

Linux: features of Linux, steps of Installation, Shell and kernel, Directory structure, Users and groups, file permissions, commands- ls, cat, cd, pwd, chmod, mkdir, rm, rmdir, mv, cp, man, apt, cal, uname, history etc.; Installing packages; Shell scripts: writing and executing a shell script, shell variables, read and expr, decision making (if-else, case), for and while loops.

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### Recommended Readings

1. Abraham Silberschatz, Peter Baer Galvin, Operating System Principles, John Wiley And Sons Inc.
2. Milan Milen Kovic, Operating System Concepts And Design, Tata Mcgraw Hill.

### Suggested Readings

3. Andrew S. Tanenbaum, Herbert Bos, Modern Operating System.
4. Mike McGrath, Linux in easy steps.
5. Sumitabha Das, Unix concepts and applications, TMH.

**Paper Code:FS-COMP-MSC-CS-CC-204**

**Paper Name: Ethical Hacking**

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### Course Objectives:

- CO1. To understand the concept of ethical hacking
- CO2. To have knowledge to installation and functioning of kali linux
- CO3. To have knowledge about various malwares
- CO4. To understand the basics of metasploit
- CO5. To be acquaint with working and network analysis with Wireshark
- CO6. To understand the concept of DDoS attacks
- CO7. To know about hardware hacking, hijack sessions, hacking web servers, website Hacking , SQL Injection and SQLMAP
- CO8. To have basic knowledge of router attacks, wi-fi attacks, password attacks and phishing attacks.

### Learning Outcomes:

After completion of this course the student will be able to-

- LO1. Understanding of the concept of ethical hacking
- LO2. Know about the installation and functioning of kali linux
- LO3. Having knowledge of about various malwaress
- LO4. Understanding of the basics of metasploit
- LO5. Acquaintance with with working and network analysis with Wireshark
- LO6. Understanding of the concepts of DDoS attacks
- LO7. Know about hardware hacking, hijack sessions, hacking web servers, website Hacking , SQL Injection and SQLMAP
- LO8. Have basic knowledge of router attacks, wi-fi attacks, password attacks and phishing attacks.

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### UnitI

Introducing Hacking, Different types of hacking, Phases of hacking, Installation and configuration of Kali Linux, Overview of directory structure, Usage of basic commands; Malwares – Virus , Worms, Trojan; Information gathering using NMAP and ZenMAP .

### Unit II

# Masters in Computer Science (Semester System)

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Metasploit: Exploiting System Software and Privilege, Metasploit Social Engineering Attack. Working and Network analysis with Wireshark , Network and web scanning about target , Packet captures and man-in-the-Middle attacks. Hacking using different social Engineering techniques.

### Unit III

DoS and DDoS attacks, Hardware hacking, Hijack sessions, Hacking web servers, Website Hacking , SQL Injection and SQLMAP, Database assessment , Router and Wi-Fi attacks, different types of password attacks, phishing attacks.

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### Recommended Readings

1. Daniel Dieterle, Basic Security Testing with Kali Linux, freely available online.
2. Branko Spasojevic, Gray Hat Hacking The Ethical Hacker's Handbook, TMH.

### Suggested Readings

3. Rafay Baloch, Ethical Hacking and Penetration Testing Guide, Auerbach Publications.
4. Raphaël Hertzog, JimO`Gorman, and Mati Aharoni, Kali Linux Revealed, offsec press, <https://kali.training/downloads/Kali-Linux-Revealed-1st-edition.pdf>
5. Himanshu Sharma, Kali Linux - An Ethical Hacker's Cookbook, Packt Publishing Limited.

### Web resources:

1. <https://nptel.ac.in/courses/106/105/106105217/>

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### Semester III

**Paper Code:FS-COMP-MSC-CS-CC-301**

**Paper Name: Data Structures**

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### Course Objectives:

- CO1. To Create and initialize variables, constants, arrays, pointers, structures, and unions.
- CO2. To Manipulate values of variables, arrays, pointers, structures, unions, and files.
- CO3. To create a function that can receive variables, arrays, pointers, and structures.
- CO4. To define functions that can receive variables, arrays, pointers, and structures.
- CO5. To create open, read, manipulate, write and close files.
- CO6. To select and use appropriate data structures for the given problems.
- CO7. To design efficient algorithms using various algorithm designing strategies
- CO8. To analyze the problem and develop the algorithms related to these problems
- CO9. To classify the problem and apply the appropriate design strategy to develop an algorithm
- CO10. To design algorithm in the context of space and time complexity and apply the asymptotic notation
- CO11. To be able to analyze algorithms and algorithm correctness.
- CO12. To be able to summarize searching and sorting techniques
- CO13. To be able to describe stack, queue, and linked list operations.
- CO14. To be able to know. tree and graphs concepts

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Create and initialize variables, constants, arrays, pointers, structures, and unions.
- LO2. Manipulate values of variables, arrays, pointers, structures, unions, and files.
- LO3. Create a function that can receive variables, arrays, pointers, and structures.
- LO4. Define functions that can receive variables, arrays, pointers, and structures.
- LO5. Create open, read, manipulate, write and close files.
- LO6. Select and use appropriate data structures for the given problems.
- LO7. Design efficient algorithms using various algorithm designing strategies
- LO8. Analyze the problem and develop the algorithms related to these problems
- LO9. Classify the problem and apply the appropriate design strategy to develop an algorithm
- LO10. Design algorithm in the context of space and time complexity and apply the asymptotic notation
- LO11. Ability to analyze algorithms and algorithm correctness.
- LO12. Ability to summarize searching and sorting techniques
- LO13. Ability to describe stack, queue, and linked list operations.
- LO14. Ability to know. tree and graphs concepts

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### Unit I

**Algorithm:** Efficiency & Analysis Algorithm: Time and Space complexity of Algorithm. **Abstract Data Type:** **Linked List-** Linear, Circular, Two Way List, Basic Operation on Linked Lists, Application of Linked List.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

### Unit II

**Stack:** primitive operations, stack Application- Infix, postfix, prefix and Recursion Array, and Linked Representation of Stack. **Queue:** Primitive operation, Circular Queue, Priority Queue, D-queue, Array, and Linked Representation of Queue.

### Unit III

**Trees:** Basic terminology, **Binary Tree:** Representation as Array and link List, Basic operation, **Tree Traversal:** Inorder, Preorder, Postorder, Application of Binary Tree. B-tree, Height Balance Tree (AVL Tree) **Graph:** Basic Terminology, Directed, Undirected, Weighted, Representation of Graphs, **Graph Traversal:** Depth First Traversal, Breadth-First Search.

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#### Recommended Readings

1. R.B Patel, Expert Data Structure with 'C', Khana Book Publishing.
2. Lipschutz, Data structure, Tata McGraw Hill.

#### Suggested Readings

3. Yashvant Kanitkar, Data Structure, BPB publications.
4. Jean-Paul Tremblay, Paul G.Sarerson, An Introduction to Data Structures with Applications, Tata McGraw Hill.
5. Yedidyah Langsam, Moshe J.Augenstein, Arora M. Tenenbaum, Data Structure Using C and C++, Prentice- Hall India

**Paper Code:FS-COMP-MS-C-CC-302**

**Paper Name: Java**

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#### Course Objectives:

CO1. To use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.

CO2. To read and make elementary modifications to Java programs that solve real-world problems.

CO3. To validate input in a Java program.

CO4. To identify and fix defects and common security issues in code.

CO5. To document a Java program using Javadoc.

CO6. To use a version control system to track source code in a project.

#### Learning Outcomes:

After completing this course, students will be able to:

LO1. Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.

LO2. Read and make elementary modifications to Java programs that solve real-world problems.

LO3. Validate input in a Java program.

LO4. Identify and fix defects and common security issues in code.

LO5. Document a Java program using Javadoc.

LO6. Use a version control system to track source code in a project.

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### Unit I

**Introduction to Java:** evolution, features, comparison with C and C++; Java program structure; tokens, keywords, constants, variables, data types, typecasting, statements, Operators and Expression; Conditional Statements and Loop Statements. **Class:** syntax, instance variable, class variables, methods, constructors, overloading.

### Unit II

**Inheritance:** types of inheritance, use of super, method overriding, final class, abstract class, wrapper classes. Arrays, Strings and Vectors, Packages and Interfaces, visibility controls

### Unit III

**Errors and Exceptions:** Types of errors, Exception classes, Exception handling in java, use of try, catch, finally, throw and throws. Taking user input, Command line arguments. **Multithreaded Programming:** Creating Threads, the Life cycle of thread, Thread priority, Thread synchronization, Inter-thread communication, Implementing the Runnable Interface.

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#### Recommended Readings

1. Herbert Schildt, The Complete reference Java Ninth Edition, Tata McGraw Hill
2. Burd, Beginning Programming with Java For Dummies , For Dummies; 3 edition

#### Suggested Readings

3. Herbert Schildt, Java: A Beginner's Guide, Sixth Edition: A Beginner's Guide, McGraw-Hill
4. E. Balagurusamy, Osborne Media Programming in JAVA, TMH.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

5. Steven Holzner et al. JAVA 2 programming Black Book, Dreamtech Press.
6. E. Balagurusamy, Programming in JAVA, TMH.

**Paper Code:FS-COMP-MS-C-CE-303(a)**

**Paper Name: Software Engineering & Research Methodology**

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### Course Objectives:

- CO1. To learn the phases of software development
- CO2. To develop process models and process systems multiple collections, models
- CO3. To gather, understand, analyze and specify requirements
- CO4. To develop architectural diagram, and implement by following coding principles
- CO5. To apply testing strategies and handle software product maintenance issues
- CO6. To get a good knowledge of the issues and challenges faced while doing the Software project Management.
- CO7. To understand why the majority of the software projects fail and how that failure probability can be reduced effectively.
- CO8. To do the Project Scheduling, tracking, Risk analysis, Quality management, and Project Cost estimation using different techniques.
- CO9. To identify and discuss the role and importance of research in the social sciences.
- CO10. To identify and discuss the issues and concepts salient to the research process.
- CO11. To identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project.
- CO12. To identify and discuss the concepts and procedures of sampling, data collection, analysis, and reporting.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Learn the phases of software development
- LO2. Develop process models and process systems multiple collections, models
- LO3. Gather, understand, analyze and specify requirements
- LO4. Develop architectural diagram, and implement by following coding principles
- LO5. Apply testing strategies and handle software product maintenance issues
- LO6. Get a good knowledge of the issues and challenges faced while doing Software project Management.
- LO7. To understand why the majority of the software projects fail and how that failure probability can be reduced effectively.
- LO8. To do the Project Scheduling, tracking, Risk analysis, Quality management, and Project Cost estimation using different techniques.
- LO9. Identify and discuss the role and importance of research in the social sciences.
- LO10. Identify and discuss the issues and concepts salient to the research process.
- LO11. Identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project.
- LO12. identify and discuss the concepts and procedures of sampling, data collection, analysis, and reporting.

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### Unit I

**Software:** Software Characteristics, Software Process, Process Characteristics, **Software Process Model:** Linear Sequential Model, Prototyping Model, Spiral Model, Software Quality, McCall's Quality Factors, **Software Requirement Analysis and Specification (SRS):** Need Characteristics and Components.

### Unit II

**Planning a Software Project:** COCOMO Model, Project Monitoring Plan, and Risk Management. **Design Principle:** Abstraction, Modularity, Cohesion and Coupling, **Software Management:** Size Oriented Metrics, Function Oriented Metrics. **Testing:** Testing Fundamental, Functional Testing (Black Box), Structural Testing (White Box), Alpha And Beta Testing, **Testing Process:** Comparison of Different Testing, Level of Testing.

### Unit III

Research Methodology: Meaning of Research, Objective of Research, Types of Research, Research Approaches, Significance of research, Research Methods versus Methodology, Research Process, Criteria of Good Research, What is Research Problem, Selecting the problem, Necessity of defining the problem, Technique involved in defining a problem.

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### Recommended Readings

1. Roger S. Pressman, Software Engineering: A Practitioner's Approach, McGraw Hill.

### Suggested Readings

2. Pankaj Jalote, Software Engineering: A Precise Approach, Wiley Precise textbook Series.
3. C. R. Kothari, Research Methodology Methods and Techniques, New Age International Publisher.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

**Paper Code:FS-COMP-MSC-CS-CE-303(b)**

**Paper Name: Artificial Intelligence**

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### Course Objectives:

- CO1. To analyze and formalize the problem as a state space, graph, design heuristics
- CO2. To have the ability to represent solutions for various real-life problem domains using logic-based techniques
- CO3. To understand the numerous applications and huge possibilities in the field of AI
- CO4. To ability to express ideas in AI research and programming language related to emerging technology.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. To analyze and formalize the problem as a state space, graph, design heuristics
- LO2. Ability to represent solutions for various real-life problem domains using logic-based techniques
- LO3. Understand the numerous applications and huge possibilities in the field of AI
- LO4. Ability to express ideas in AI research and programming language related to emerging technology.

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### Unit I

Definition, History, Agents, and environment, Defining the problem as a state and space search, What is Intelligence? Types of Intelligence, Difference between Human and Machine Intelligence, The Structure of Intelligent Agents. Solving problems by searching: Uninformed search strategies- Brute-Force, Breadth-First, Uniform-cost search Depth-First, Depth-limited search,depth-first search, Bidirectional search. Informed (heuristic) search strategies- Greedy best-first search, A\*, AO\* Memory-bounded heuristic search.

### Unit II

Heuristic functions, local search algorithms- Hill-climbing search, Simulated annealing, Local beam search. Knowledge-Based System: Knowledge, Procedure V/S Declarative Knowledge, Knowledge Representation: Using Procedural and Predicate Logic, Inference in First-order logic: Unification and Lifting, Forward Chaining, Backward Chaining, Resolution. Rule-based System, Frames, Scripts, and Semantic Nets.

### Unit III

Probabilistic Reasoning, Probability, and Bayes Theorem represent knowledge in the uncertain domain, Certainty factors, Bayesian Networks, Dempster–Shafer theory, introduction to Fuzzy logic. Learning: types of learning, decision trees. **Expert System: types, architecture. Introduction to Artificial Neural Networks, Reinforcement Learning, Natural Language Processing, Pattern Recognition, and Perception.**

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### Recommended Readings

1. Rich And Knight, Artificial Intelligence, Tata McGraw Hill

### Suggested Readings

2. Patterson, Introduction to Artificial Intelligence and Expert Systems, Prentice-Hall India.
3. Russell and Norvig, Artificial Intelligence A Modern Approach, Prentice Hall.

**Paper Code:FS-COMP-MSC-CS-CE-303(c)**

**Paper Name: Python**

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### Course Objectives:

- CO1. Apply language features including strings, lists, tuples, dictionaries, regular expressions.
- CO2. Create and call functions.
- CO3. Create and manipulate files.
- CO4. Develop classes using OO features.
- CO5. Develop internet applications using packages such as urllib.
- CO6. To understand why Python is a proper scripting language for developers.
- CO7. To learn how to design and program Python applications.
- CO8. To learn how to use lists, tuples, and dictionaries in Python programs.
- CO9. To learn how to identify Python object types.
- CO10.To learn how to use indexing and slicing to access data in Python programs.
- CO11. To define the structure and components of a Python program.
- CO12. To learn how to write loops and decision statements in Python.
- CO13. To learn how to write functions and pass arguments in Python.
- CO14. To learn how to build and package Python modules for reusability.
- CO15. To learn how to read and write files in Python.
- CO16. To learn how to design object-oriented programs with Python classes.
- CO17. To learn how to use class inheritance in Python for reusability.
- CO18. To learn how to use exception handling in Python applications for error handling.

### Learning Outcomes:

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After completing this course, students will be able to:

LO1. Apply language features including strings, lists, tuples, dictionaries, regular expressions. LO2. Create and call functions.

LO3. Create and manipulate files.

LO4. Develop classes using OO features.

LO5. Develop internet applications using packages such as urllib.

LO6. To understand why Python is a proper scripting language for developers.

LO7. To learn how to design and program Python applications.

LO8. To learn how to use lists, tuples, and dictionaries in Python programs.

LO9. To learn how to identify Python object types.

LO10. To learn how to use indexing and slicing to access data in Python programs.

LO11. To define the structure and components of a Python program.

LO12. To learn how to write loops and decision statements in Python.

LO13. To learn how to write functions and pass arguments in Python.

LO14. To learn how to build and package Python modules for reusability.

LO15. To learn how to read and write files in Python.

LO16. To learn how to design object-oriented programs with Python classes.

LO17. To learn how to use class inheritance in Python for reusability.

LO18. To learn how to use exception handling in Python applications for error handling.

---

### Unit I

Basics: Python Interpreter, writing code in Jupyter Notebook, Indentation, comments, importing a module, binary operators, standard scalar data types, typecasting, if-else statements, loops(while, for), pass, range, ternary expressions. Data Structures and Sequences: Tuples, Lists, and slicing, Built-in Sequence functions, Dictionary, Sets; List, Set, and Dict Comprehensions.

### Unit II

Functions: Namespaces, Scope, and Local Functions; Returning Multiple Values, Anonymous (Lambda) Functions, Partial Argument Application, Generators, Errors, and Exception handling. Basic File Handling. Objects and Methods in Python. NumPy: creating N-dimensional arrays, arithmetic with NumPy arrays, basic indexing, and slicing, Psuedorandom number generation.

### Unit III

Pandas: Overview of Series and DataFrames, reading data from csv file, DataFrame operations- working with data using functions like head, tail, info, shape, reshape, columns, isnull, dropna, mean, sum, describe, value\_counts, corr, loc, iloc, apply. Matplotlib- plotting basic figures, subplots, line plots, bar plots, histograms, scatter plots. Overview of Scikit-learn, SciPy, networkx. Applications of python.

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### Recommended Readings

1. Wes McKinney, Python for Data Analysis: Data Wrangling with Pandas, NumPy, and Ipython, O'Reilly Media.
2. John Shovic and Alan Simpson, Python All-in-One for Dummies, John Wiley & Sons, Inc.

### Suggested Readings

3. Mark Summerfield, Programming in Python 3: A Complete Introduction to the Python Language, Pearson.
4. Swaroop, C. H. A Byte of Python. Python Tutorial.
5. John V. Guttag, Introduction to Computation and Programming Using Python, MIT Press.
6. Mark Lutz, David Ascher, Python, O'Reilly.
7. T. Budd, Exploring Python, TMH.

### Web Resources

1. <https://www.learnpython.org/>
2. <https://nptel.ac.in/courses/106/106/106106212/>
3. <http://greenteapress.com/thinkpython/thinkpython.pdf>
4. Python tutorial: <https://docs.python.org/3/tutorial/index.html>
8. Python All-in-One for Dummies, by John Shovic and Alan Simpson, John Wiley & Sons, Inc., 2019

**Paper Code:FS-COMP-MSC-CS-CE-303(d)**

**Paper Name: Theory of Computation**

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### Course Objectives:

CO1. able to design Finite Automata machines for given problems;

CO2. able to analyze a given Finite Automata machine and find out its Language;

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- CO3. able to create Pushdown Automata machine for given CF language(s);  
CO4. able to generate the strings/sentences of given context-free languages using its grammar;  
CO5. Able to design Turing machines for given Apply to identify Interpretational problem.

### Learning Outcomes:

After completing this course, students will be able to identify.:

- LO1. able to design Finite Automata machines for given problems;  
LO2. able to analyze a given Finite Automata machine and find out its Language;  
LO3. able to create Pushdown Automata machine for given CF language(s);  
LO4. able to generate the strings/sentences of given context-free languages using its grammar;  
LO5. Able to design Turing machines for given Apply to identify Interpretational problem.

---

### Unit I

Languages: Alphabets, string, language, Basic Operations on language, Concatenation, Kleene Star. Finite Automata and Regular Languages: Regular Expressions, Transition Graphs, Deterministic and non-deterministic finite automata, NFA to DFA Conversion, Regular languages and their relationship with finite automata, Pumping lemma and closure properties of regular languages.

### Unit II

Context-free languages: Context-free grammars, parse trees, ambiguities in grammars and languages, Pushdown automata (Deterministic and Non-deterministic), Pumping Lemma, Properties of context-free languages, normal forms.

### Unit III

Turing Machines and Models of Computations: RAM, Turing Machine as a model of computation, Universal Turing Machine, Language acceptability, decidability, halting problem, Recursively enumerable and recursive languages, unsolvability problems.

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### Recommended Readings

1. Daniel I.A., Cohen, Introduction to computer theory, John Wiley.
2. Lewis & Papadimitriou, Elements of the theory of computation, PHI.

### Suggested Readings

1. Hopcroft, Aho, Ullman, Introduction to Automata Theory, Language & Computation, Pearson Education.
2. P. Linz, An Introduction to Formal Language and Automata, 4th edition Jones Bartlett Publication .

**Paper Code: FS-COMP-MS-C-EO-304(a)**

**Paper Name: Data Analysis Using R**

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### Course Objectives:

- CO1. To use Jupyter Notebook for interactive computation  
CO2. To practice Python features such as lists, dictionaries, and files for the given problem  
CO3. To use NumPy functions for array processing  
CO4. To apply Pandas Dataframe for data wrangling  
CO5. To generate graphs for the given data using Matplotlib  
CO6. To understand the basics of R programming in terms of constructs, control statements, string Functions.  
CO7. To understand the use of R for Data analytics.  
CO8. To conduct your independent data analysis.  
CO9. To be able to appreciate and to apply the R programming from a statistical perspective.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Use Jupyter Notebook for interactive computation  
LO2. Practice Python features such as lists, dictionaries, and files for the given problem  
LO3. Use NumPy functions for array processing  
LO4. Apply Pandas Dataframe for data wrangling  
LO5. Generate graphs for the given data using Matplotlib  
LO6. Understand the basics of R programming in terms of constructs, control statements, string Functions.  
LO7. Understand the use of R for Data analytics.  
LO8. Conduct your independent data analysis.  
LO9. Able to appreciate and apply the R programming from a statistical perspective.
-

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### Unit I

Foundations for data analysis-matrices, the notion of probability, the concept of random variables and various distributions, mean, variance, covariance, normal distributions, an overview of sampling, hypothesis testing, confidence interval, the concept of optimization.

### Unit II

installation of R, data editing, use of R as a calculator; functions, and assignments. matrix operations, logical operators, Conditional executions and loops, data management with sequences, repeats, sorting and ordering, lists, vector indexing, factors; display and formatting of strings.

### Unit III

Working with data frames, Importing data files; Graphics and plots; basic statistical functions for central tendency, variation, box plots, skewness and kurtosis, correlations; overview of using R functions for simple hypothesis testing, Applications of R.

### Recommended Readings

1. Garrett Grolemond, Hands-On Programming with R, O'Reilly Publishers.
2. R for Beginner - [https://cran.r-project.org/doc/contrib/Paradis-rdebuts\\_en.pdf](https://cran.r-project.org/doc/contrib/Paradis-rdebuts_en.pdf)

### Suggested Readings

3. A Learning Guide to R - [https://www.westernsydney.edu.au/\\_data/assets/pdf\\_file/0011/830909/Rnotes\\_20180905\\_web.pdf](https://www.westernsydney.edu.au/_data/assets/pdf_file/0011/830909/Rnotes_20180905_web.pdf)
4. Douglas Montgomery, Applied Statistics And Probability For Engineers, John Wiley & Sons Inc.
5. C.R. Kothari, Research Methodology: Methods And Techniques, New Age International Publishers.
6. Montgomery, Douglas C, Design and Analysis of Experiments, Wiley India.

**Paper Code:FS-COMP-MSC-CS-EO-304(b)**

**Paper Name : LaTeX: a document preparation system**

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### Course Objectives:

- CO1. To apply various Excel tools and add-ins for analyzing Business problems.
- CO2. To compare mathematical formulas with Spreadsheet formulas
- CO3. To explore, query, and summarize business data.
- CO4. To apply descriptive statistical measures for business decisions.
- CO5. To perform progression analysis and forecasting techniques.
- CO6. To understand how to write documents containing mathematical formulas.
- CO7. To understand how to write articles in different journal styles.
- CO8. To understand how to create PPT in a more presentable manner.
- CO9. To understand how to create using built-in templates.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Apply various Excel tools and add-ins for analyzing Business problems.
- LO2. Compare mathematical formulas with Spreadsheet formulas
- LO3. Explore, query, and summarize business data.
- LO4. Apply descriptive statistical measures for business decisions.
- LO5. Perform progression analysis and forecasting techniques.
- LO6. Understand how to write documents containing mathematical formulas.
- LO7. Understand how to write articles in different journal styles.
- LO8. Understand how to create PPT in a more presentable manner.
- LO9. Understand how to create using built-in templates.

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### Unit I

Installation of the software LaTeX, Structure of LaTeX documents; Special Characters, Producing equations, Matrices, Tables, itemized lists, hypertext links; Page Layout –Title, Abstract, Chapters, Sections, References.

### Unit II

Including graphics, images, floating bodies; Producing basic mathematical graphics like line segments, arrows, circles, ovals, Generating index and bibliography, creating a PDF file.

### Unit III

Adding a new command; generating spaces, colored text; Writing a sample resume, question paper, article/ research paper; Creating a presentation using beamer.  
of part A, B and C are 50, 200 and 500 respectively

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### Recommended Readings

1. Leslie Lamport, LaTeX: A Document Preparation System, Addison- Wesley.

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### Suggested Readings

2. Stefan Kottwitz, LaTeX Beginner's Guide, Packt Publishing Limited.
3. Tobias Oetiker, Hubert Partl, Irene Hyna, and Elisabeth Schegle, The Not So Short Introduction to LaTeX 2e, <https://tobi.oetiker.ch/lshort/lshort-a5book.pdf>, 2014.

**Paper Code: FS-COMP-MS-CO-304(c)**

**Paper Name: Natural Language Processing**

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### Course Objectives:

- CO1. To have an introduction of the fundamental concepts and techniques of natural language processing (NLP).
- CO2. To gain an in-depth understanding of the computational properties of natural languages and the commonly used algorithms for processing linguistic information.
- CO3. To examine NLP models and algorithms using both the traditional symbolic and the more recent statistical approaches.
- CO4. To understand critical concepts from NLP are used to describe and analyze language.
- CO5. To perform POS tagging and context-free grammar for the English language.
- CO6. To understanding semantics and pragmatics of English language for processing.
- CO7. To write programs in Python to carry out natural language processing

### Learning Outcomes:

After completing this course, students will be able to-

- LO1. Introduction to the fundamental concepts and techniques of natural language processing (NLP).
- LO2. Students will gain an in-depth understanding of the computational properties of natural languages and the commonly used algorithms for processing linguistic information.
- LO3. The course examines NLP models and algorithms using both the traditional symbolic and the more recent statistical approaches.
- LO4. Critical concepts from NLP are used to describe and analyze language.
- LO5. POS tagging and context-free grammar for the English language.
- LO6. Understanding semantics and pragmatics of English language for processing.
- LO7. Writing programs in Python to carry out natural language processing

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### Unit I

Introduction, Basics of text processing, Spelling Correction: Edit Distance; N-Gram Language Models, Evaluation of Language Models, Basic Smoothing, Computational Morphology, Introduction to POS Tagging, Overview of Hidden Markov Model, Basics of Models for Sequential tagging – Introduction to Maximum entropy and Conditional Random Fields.

### Unit II

Constituency syntax parsing, examples of parsing using CKY and PCFG, Introduction to Dependency Grammars and Parsing, understanding of Transition Based Parsing; Distributional Semantics - Introduction, Applications; Word Embedding: Frequency-based embedding, Prediction based embeddings. Lexical Semantics: an overview of WordNet, Word Sense Disambiguation.

### Unit III

Topic models: introduction, LDA; Introduction to Entity Linking and Information Extraction; Text Summarization: an overview of various approaches; Text Classification: introduction and simple practical implementation using Python. Sentiment Analysis: Concept, Analysis, and Applications.

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### Required Readings

1. James Allen, Natural Language Understanding, Pearson Education; 2nd edition.
2. Jurafsky / Martin. Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics and Speech Recognition, 2e.
3. Nitin Indurkha, Fred J. Damerau, Handbook of Natural Language Processing, Taylor and Francis; Second edition.
4. Alexander Clark, Chris Fox, Shalom Lappin, The Handbook of Computational Linguistics and Natural Language Processing, Wiley-Blackwell; 1st edition
5. Steven Bird, Ewan Klein, Edward Loper, Natural Language Processing with Python: Analysing Text with the Natural Language Toolkit, Shroff pub.
6. Christopher D. Manning, Hinrich Schütze, Foundations of Statistical Natural Language Processing, MIT press.

### Suggested Readings

1. Frederick Jelin, Statistical Methods for Speech Recognition (Language, Speech, and Communication) Fourth Printing Edition.

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2. Yoav Goldberg, Graeme Hirst, Morgan and Claypool, Neural Network Methods for Natural Language Processing Synthesis Lectures on Human Language Technologies, Life Sciences.

**Paper Code:FS-COMP-MSC-CS-EO-303(d)**

**Paper Name: Introduction to Cyber Security**

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### Course Objectives:

- CO1. To identify and classify various attacks
- CO2. To encrypt and decrypt messages using block chippers and signs.
- CO3. To create a digital signature using multiple algorithms.
- CO4. To describe web security, intruders, viruses, and firewalls

### Learning Outcomes:

After completing this course, students will be able to-

- LO1. Identify and classify various attacks
- LO2. Encrypt and decrypt messages using block chippers and signs.
- LO3. Create a digital signature using multiple algorithms.
- LO4. Describe web security, intruders, viruses, and firewalls

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### Unit I

Basics: Linux/Mac Terminal and Commands, Basic Computer Terminology, Computer Security models, Computer Security Terms, Computer Ethics, Business, and Professional Ethics, Need for cyber security; Cyber Frauds and crimes, Digital Payments, Various Search Engines, Introduction to Auditing, Deep Web, VAPT, Smartphone Operating systems, introduction to compliances, Globalization and borderless world.

### Unit II

Basic Python Scripting: Python Basics, Variables, and Types, Lists, Basic Operators, String Formatting, Basic String Operations, Conditions, Loops, Functions, Classes and Objects, Dictionaries, Modules, and Packages.

### Unit III

Cyber Laws: Need for Cyber Regulations; Scope and Significance of Cyber laws: Information Technology Act 2000; Network and Network Security, Access and Unauthorised Access, Data Security, E Contracts and E Forms. Penal Provisions for Phishing, Spam, Virus, Worms, Malware, Hacking, Trespass, and Stalking; Human rights in cyberspace, International Co-operation in investigating cybercrimes.

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### Recommended Readings

1. Behrouz A. Forouzan (2004). Data communication and Networking. Tata McGraw-Hill.
2. Kurose, James F. & Ross, Keith W. (2003). Computer Networking: A Top-Down Approach Featuring the Internet (3rd Ed.). Pearson Education.
3. Langtangen, H.P. (2012). Python Scripting for Computational Science (4th Ed.). Springer
4. Craig, B. (2012). Cyber Law: The Law of the Internet and Information Technology. Pearson. Sharma J. P. & Kanojia S. (2016). Cyber Laws. New Delhi: Ane Books Pvt Ltd.
5. Paintal, D. Law of Information Technology. New Delhi: Taxmann Publications Pvt. Ltd

### Suggested Readings

1. Shema, M. (2012). Hacking Web Apps: Detecting and Preventing Web Application Security Problems.
2. <https://uou.ac.in/sites/default/files/slm/Introduction-cyber-security.pdf>
3. Computer Programming And Cyber Security for Beginners: This Book Includes: Python Machine Learning, SQL, Linux, Hacking with Kali Linux, Ethical Hacking, Coding and Cybersecurity Fundamentals, Zach Codings, Independently published

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### Semester IV

**Paper Code:FS-COMP-MSC-CS-CC-401**

**Paper Name: Computer Graphics & Multimedia**

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### Course Objectives:

- CO1. To develop line and circle generation algorithms
- CO2. To apply 2D and 3D transformations
- CO3. To develop clipping algorithms for point, line, and polygons
- CO4. To learn the concepts of projections, viewing, and graphics pipeline
- CO5. To create a simple animation and interaction for multimedia presentation
- CO6. To understand image types and color models
- CO7. To describe the concepts regarding the digitization of audio signals
- CO8. To compress images, videos, and audios using data compression methods

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CO9. To encode videos and audios using MPEG

CO10. To ExplainfunctionalIdentify the core concepts of computer graphics, including viewing, projection, perspective, modeling, and transformation in two and three dimensions.

CO11. To apply the concepts of color models, lighting and shading models, textures, ray tracing, hidden surface elimination, anti-aliasing, and rendering.

CO12. To interpret the mathematical foundation of the concepts of computer graphics.

CO13. To describe the fundamentals of animation, parametric curves, and surfaces, and spotlighting.

CO14. To identify a typical graphics pipeline and apply graphics programming techniques to design and create computer graphics.

CO15. To create effective OpenGL programs to solve graphics programming issues, including 3D transformation, object modeling, color modeling, lighting, textures, and ray tracing.

CO16. To understand multimedia concerning any applications, including business, schools, home, education, and virtual reality.

CO17. To understand the hardware and software needed to create projects using creativity and organization to create them.

CO18. To develop multimedia skills to be the principal player of individual multimedia teams in developing projects.

CO19. To work with all aspects of images.

CO20. To work with all aspects of sound.

CO21. To work with all aspects of the video.

CO22. To learn copyright laws associated with multimedia.

CO23. To learn the cost involved in multimedia planning, designing, and producing.

CO24. To learn ways to present their multimedia projects.

### **Learning Outcomes:**

After completing this course, students will be able to:

LO1. Develop line and circle generation algorithms

LO2. Apply 2D and 3D transformations

LO3. Develop clipping algorithms for point, line, and polygons

LO4. Learn the concepts of projections, viewing, and graphics pipeline

LO5. Create a simple animation and interaction for multimedia presentation

LO6. Understand image types and color models

LO7. Describe the concepts regarding the digitization of audio signals

LO8. Compress images, videos, and audios using data compression methods

LO9. Encode videos and audios using MPEG

LO10. ExplainfunctionalIdentify the core concepts of computer graphics, including viewing, projection, perspective, modeling, and transformation in two and three dimensions.

LO11. apply the concepts of color models, lighting and shading models, textures, ray tracing, hidden surface elimination, anti-aliasing, and rendering.

LO12. interpret the mathematical foundation of the concepts of computer graphics.

LO13. Describe the fundamentals of animation, parametric curves, and surfaces, and spotlighting.

LO14. Identify a typical graphics pipeline and apply graphics programming techniques to design and create computer graphics.

LO15. Create effective OpenGL programs to solve graphics programming issues, including 3D transformation, object modeling, color modeling, lighting, textures, and ray tracing.

LO16. Students will understand multimedia concerning any applications, including business, schools, home, education, and virtual reality.

LO17. Students will understand the hardware and software needed to create projects using creativity and organization to create them.

LO18. The student will develop multimedia skills to be the principal player of individual multimedia teams in developing projects.

LO19. Students will work with all aspects of images.

LO20. Students will work with all aspects of sound.

LO21. Students will work with all aspects of the video.

LO22. Students will learn copyright laws associated with multimedia.

LO23. Students will learn the cost involved in multimedia planning, designing, and producing.

LO24. Students will learn ways to present their multimedia projects.

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### **Unit I**

Basic elements of Computer Graphics, Graphics display devices, Applications of Computer Graphics, Raster and random scan; Color Models: RGB, CMY, HSV; Graphics Standard: OpenGL; Scan Conversion: DDA line

# Masters in Computer Science (Semester System)

## Choice Based Credit System

algorithm, Midpoint circle Algorithm. 2D Transformation: Translation, Rotation, Scaling, Homogeneous Coordinates and Matrix Representation of 2D Transformation, Composite Transformation.

### Unit II

3D Graphics: Matrix Representation of 3D transformations, Translation, Rotation, Scaling, Composite Transformation. Overview of concepts: Clipping, orthographic and parallel projection, hidden surface removal, lighting, transparency, modeling and texturing, rendering; Animations: Principles of animations, keyframing, the concept of 2D and 3D animation.

### Unit III

Blender: GUI Interface, Selecting, rotating, and Translating Objects, Using Snap to move objects precisely, Creating mesh primitives and extrusions, Subdividing meshes, Creating a simple creature, Joining mesh objects and stitching vertices, Organizing a scene with layers, groups, and hierarchies, Assigning glossy and reflective materials to objects, Creating bump maps, Creating sky and ambient light, Understanding ambient occlusion, Adding motion blur and depth of field, Editing animation in the Graph Editor, Building and animating a simple character.

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### Recommended Readings

1. Foley, van Dam, Feiner and Hughes, Computer Graphics (Principles and Practice), Addison Wesley (Indian Edition).
2. D Hearn and PM Baker, Computer Graphics, Prentice Hall of India (Indian Edition).

### Suggested Readings

3. DF Roger, Mathematical Elements for Computer Graphics.
4. Krishnamurthy N, Introduction to Computer Graphics, Tata McGraw Hill.
5. Zhigang X. and Plastock Ra, Theory and Problems of Computer Graphics (Schaum's Outline), Tata McGraw Hill.

### Web Resources

1. <https://www.cs.duke.edu/brd/Teaching/Previous/Animation/animation.html>
2. [http://zikky.lecturer.pens.ac.id/Produksi 3D untuk Designer/Beginning Blender-book.pdf](http://zikky.lecturer.pens.ac.id/Produksi%203D%20untuk%20Designer/Beginning%20Blender-book.pdf)
3. <http://www.blenderhd.com/wp-content/uploads/2015/08/BeginnersGuideToBlender.pdf>
4. [https://people.sc.fsu.edu/~gerlebacher/gd/blender/blender/blender\\_noob\\_to\\_pro.pdf](https://people.sc.fsu.edu/~gerlebacher/gd/blender/blender/blender_noob_to_pro.pdf)
5. [http://download.blender.org/documentation/pdf/John M Blain - An Introduction To Blender 3D - A Book For Beginners \(2011\).pdf](http://download.blender.org/documentation/pdf/John%20M%20Blain%20-%20An%20Introduction%20To%20Blender%203D%20-%20A%20Book%20For%20Beginners%20(2011).pdf)
6. [http://www.cdschools.org/cms/lib04/PA09000075/Centricity/Domain/81/BlenderBasics\\_4thEdition2011.pdf](http://www.cdschools.org/cms/lib04/PA09000075/Centricity/Domain/81/BlenderBasics_4thEdition2011.pdf)
7. <https://docs.blender.org/manual/en/dev/index.html>

**Paper Code:FS-COMP-MS-C-CC-402**

**Paper Name: Android Programming**

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### Course Objectives:

- CO1. To create an android project from XML Layout.
- CO2. To debug Android apps and create UI fragments
- CO3. To pass data between fragments
- CO4. To design apps with audio playback.
- CO5. To create a database and communicate with mobile apps
- CO6. To install and configure Android application development tools
- CO7. To design and develop user interfaces for the Android platform.
- CO8. To save state information across important operating system events.
- CO9. To apply Java programming concepts to Android application development.
- CO10. To develop the ability to develop Android Application

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Create an android project from XML Layout.
  - LO2. Debug Android apps and create UI fragments
  - LO3. Pass data between fragments
  - LO4. Design apps with audio playback.
  - LO5. Create database and communicate with mobile apps
  - LO6. Install and configure Android application development tools.
  - LO7. Design and develop user interfaces for the Android platform.
  - LO8. Save state information across important operating system events.
  - LO9. Apply Java programming concepts to Android application development.
  - LO10. Develop the ability to develop Android Application
- 

### Unit -I

# Masters in Computer Science (Semester System)

## Choice Based Credit System

Introduction: What is Android?, Android Architecture, Setting Android Environment, Android SDK Manager & required Packages, Using Android Studio, Android Virtual Device(AVD), Creating First Android Application, Package Structure, Introduction to Gradle, Running the Application, Views, Layouts and more.

### Unit – II

Introduction to Views: TextView, EditText View, RadioButton and CheckBox View, Button View, ImageView and ImageButton View, Toast, Notifications.

Introduction to Layouts/ViewGroups: Linear Layout, Relative Layout, Tabular Layout, Hierarchical Layout Arrangements, Adapter, and Adapter View, Using ListView and GridView, SQLite Database.

### Unit – III

Spinner in Android, Working with Spinners, Margin and Padding, Working with EditText and TextView, RadioGroup, RadioButton and CheckBox, AutoCompleteTextView in Android, Android Core, and Projects.

Location-Based Services: Sending Email, Sending SMS, Phone Calls

Activity in Android, Intents in Android, Introduction to Fragments, Working with Fragments

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### Recommended Readings

1. Android Programming for Beginners by John Horton Publisher: Packt Publishing
2. Learn Java for Android Development (2nd edition) by Jeff Friesen Publisher: Apress

### Suggested Readings

3. James C. Sheusi, **Android application development for java programmers, Cengage Learning.**
4. Jerome F. DiMarzio, **Beginning Android Programming with Android Studio, Fourth Edition, John Wiley & Sons.**
5. Kristin Marsicano , Chris Stewart , Bill Phillips, **Programming: The Big Nerd Ranch Guide, Big Nerd Ranch Guides.**

**Paper Code:FS-COMP-MS-C-CE-403(a)**

**Paper Name : Cloud Computing**

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**Objective** – After completing this course the student will have an understanding of key aspects of cloud computing

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### Unit I

Introduction to Cloud Computing, Services provided by cloud-SaaS, PaaS, IaaS, DaaS, etc. Functioning of cloud computing, Advantages, Disadvantages, Applications, Cloud Service Providers- Amazon AWS, Google App Engine, Microsoft, VMware. Virtualization concepts, Objectives, Types of Virtualization & its benefits, Introduction to Various Virtualization OS (Hypervisor). Virtualization for Enterprises

### Unit II

Designing and Implementing a Data Center-Based Cloud, Industry and International Standards for Cloud Implementation, Building private cloud using open source tools, Integration of Public and Private Cloud. Private, Public & Hybrid Clouds, their Advantages & Disadvantages, On-Premises and Off-Premises Cloud services, installing a Cloud service.

### Unit III

Cloud Security issues - Infrastructure Security, Network level security, Host level security, Application-level security, Data privacy and security Issues, Jurisdictional issues raised by Data location, Access Control, Trust, Reputation, Risk, and Authentication in cloud computing

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### Suggested Readings

1. Thomas Erl, Cloud Computing Concepts Technology and Architecture, Prentice Hall.
2. Rajkumar Buyya, James Broberg and Andrzej Goscinski, Cloud Computing Principles and paradigms, John Wiley and Sons, Inc. Publication.
3. Dan C. Marinescu, Cloud Computing Theory and Practice, Morgan Kaufman Publication.

**Paper Code:FS-COMP-MS-C-CE-403(b)**

**Paper Name: Internet of Things**

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### Course Objectives:

- CO1. To understand the definition and significance of the Internet of Things
- CO2. To discuss the architecture, operation, and business benefits of an IoT solution
- CO3. To examine the potential business opportunities that IoT can uncover
- CO4. To explore the relationship between IoT, cloud computing, and big data
- CO5. To identify how IoT differs from traditional data collection systems
- CO6. To understand the definition and significance of the Internet of Things
- CO7. To discuss the architecture, operation, and business benefits of an IoT solution

# Masters in Computer Science (Semester System)

## Choice Based Credit System

- CO8. To examine the potential business opportunities that IoT can uncover  
CO9. To explore the relationship between IoT, cloud computing, and big data  
CO10. To identify how IoT differs from traditional data collection systems.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Understand the definition and significance of the Internet of Things  
LO2. Discuss the architecture, operation, and business benefits of an IoT solution  
LO3. Examine the potential business opportunities that IoT can uncover  
LO4. Explore the relationship between IoT, cloud computing, and big data  
LO5. Identify how IoT differs from traditional data collection systems  
LO6. Understand the definition and significance of the Internet of Things  
LO7. Discuss the architecture, operation, and business benefits of an IoT solution  
LO8. Examine the potential business opportunities that IoT can uncover  
LO9. Explore the relationship between IoT, cloud computing, and big data  
LO10. Identify how IoT differs from traditional data collection systems.

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### Unit I

M2M to IoT: Introduction, Market Perspective, Architectural Overview. M2M to IoT Technology- Devices and gateways, Local and wide area networking, Data management, Business processes in IoT, IoT analytics, Knowledge management, IOT Architecture, Architecture Reference Model, Real-world design constraints.

### Unit II

IoT Use Cases- Asset Management, **Industrial Automation**- Service-oriented architecture-based device integration, SOCRADES: realizing the enterprise integrated Web of Things, IMC-AESOP: from the Web of Things to the Cloud of Things, **Commercial Building Automation**- Introduction, Case study: phase one- commercial building automation today, Case study: phase two- commercial building automation in the future.

### Unit III

Internet of Things Privacy, Security and Governance Introduction, Overview of Governance, Privacy and Security Issues, Contribution from FP7 Projects, Security, IOT and Smart Cities, Privacy and Trust in IoT-Data-Platforms for Smart Cities, First Steps Towards a Secure Platform, Smartie Approach. Data Aggregation for the IoT in Smart Cities, Security

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### Recommended Readings

Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence, 1st Edition, Academic Press.

1. Vijay Madiseti and Arshdeep Bahga, Internet of Things (A Hands-on-Approach), 1st Edition, VPT.
2. Francis daCosta, Rethinking the Internet of Things: A Scalable Approach to Connecting Everything, 1st Edition, Apress Publications.
3. Hakim Cassimally, Designing the Internet of Things, Adrian McEwen (Author).
4. Dr. Ovidiu Vermesan, Dr. Peter Friess, Internet of Things: Converging Technologies for Smart Environments and Integrated Ecosystems, River Publishers.
5. Vijay Madiseti, Arshdeep Bahga, Internet of Things, A Hands-on-Approach.
6. Daniel Minoli, Building the internet of things with ipv6 and mipv6, The Evolving World of M2M Communications, John Wiley & Sons.

**Paper Code:FS-COMP-MS-C-CE-403(c)**

**Paper Name: Big Data & Data Mining**

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### Course Objectives:

- CO1. To explain characteristics and use cases and applications of Big Data  
CO2. To develop MapReduce operation using Hadoop  
CO3. To be able to understand the role of Virtualization Technologies  
CO4. To design and implement systems for data mining.  
CO5. To evaluate the performance of different data-mining algorithms.  
CO6. To propose data-mining solutions for various applications.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Explain characteristics and use cases and applications of Big Data  
LO2. Develop MapReduce operation using Hadoop  
LO3. Ability to understand the role of Virtualization Technologies  
LO4. design and implement systems for data mining.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

LO5. Evaluate the performance of different data-mining algorithms.

LO6. Propose data-mining solutions for various applications.

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### Unit I

Data mining Introduction: Definition, Data mining tasks, Data mining as a step of the Knowledge discovery process, Applications of Data mining; Data objects and types of attributes, Recalling mean, median, mode, and weighted arithmetic mean, Data quality, an overview of data preprocessing.

### Unit II

Classification analysis- definition, Overview of various classification techniques; Decision tree induction-working, examples, specifying attribute test conditions, Measures of node impurity, measures for selecting best split; Evaluating the performance of a classifier- Holdout method, Random subsampling, cross-validation, Bootstrap.

### Unit III

Association analysis: support, confidence, association rules, Frequent Itemsets; Frequent itemset generation - Apriori principle, Apriori algorithm, and examples, FP growth algorithm, and examples; Closed and maximal frequent itemsets. Cluster analysis: Definition, an overview of basic clustering methods, Density-based methods-DBSCAN.

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### Recommended Readings

1. Jiawei Han and Micheline Kamber, Data Mining: Concepts and Techniques, 3rd edition.
2. Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Introduction to Data Mining, Pearson Education.

### Suggested Readings

3. Richard Roiger, Michael Geatz, Data Mining: A Tutorial Based Primer, Pearson Education.
4. G.K. Gupta, Introduction to Data Mining with Case Studies, PHI.
5. Soman K. P., DiwakarShyam, Ajay V., Insight into Data mining: Theory and Practice, PHI.
6. Witten, Frank, Data Mining:: Practical Machine Learning Tools and Techniques (Morgan Kaufmann Series in Data Management Systems) Prentice Hall.

**Paper Code: FS-COMP-MS-C-CE-403(d)**

**Paper Name: Machine Learning**

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### Course Objectives:

- CO1. To be able to design Finite Automata machines for given problems;
- CO2. To be able to analyze a given Finite Automata machine and find out its Language;
- CO3. To be able to create Pushdown Automata machine for given CF language(s);
- CO4. To be able to generate the strings/sentences of given context-free languages using its grammar;
- CO5. To be able to design Turing machines for given Apply to identify Interpretational problem.

### Learning Outcomes:

After completing this course, students will be able to-

- LO1. Able to design Finite Automata machines for given problems;
- LO2. Able to analyze a given Finite Automata machine and find out its Language;
- LO3. Able to create Pushdown Automata machine for given CF language(s);
- LO4. Able to generate the strings/sentences of given context-free languages using its grammar;
- LO5. Able to design Turing machines for given Apply to identify Interpretational problem.

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### Unit I

Introduction: Concept of Machine Learning, Applications of Machine Learning, Key elements of Machine Learning, Supervised vs. Unsupervised Learning, Statistical Learning: Bayesian Method, The Naive Bayes Classifier. Tools for Machine Learning and Linear Algebra Overview: Plotting of Data, Vectorization, Matrices, and Vectors: Addition, Multiplication, Transpose and Inverse using available tools/libraries with Python.

### Unit II

Linear Regression: Prediction using Linear Regression, Gradient Descent, Linear Regression with one variable, Linear Regression with multiple variables, Polynomial Regression, Feature Scaling/Selection. Logistic Regression: Classification using Logistic Regression, Logistic Regression vs. Linear Regression, Logistic Regression with one variable and with multiple variables.

### Unit III

Regularization: Regularization and its utility: The problem of Overfitting, Application of Regularization in Linear and Logistic Regression, Regularization and Bias/Variance. Neural Networks: Introduction, Model Representation, Gradient Descent vs. Perceptron Training, Stochastic Gradient Descent, Multilayer Perceptrons, Multiclass Representation, Backpropagation Algorithm.

# Masters in Computer Science (Semester System)

## Choice Based Credit System

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### Recommended Readings

1. Tom M. Mitchell, Machine Learning, First Edition, Tata McGraw-Hill Education.
2. Ethem Alpaydin, Introduction to Machine Learning, 2nd Edition, The MIT Press.
3. Christopher M. Bishop, Pattern Recognition and Machine Learning, Springer.
4. Mevin P. Murphy, Machine Learning: A Probabilistic Perspective, The MIT Press.

### Suggested Readings

1. John Paul Mueller, Luca Massaron, Machine Learning For Dummies, For Dummies; 1st edition.
2. O Theobald, Machine Learning for Absolute Beginners: A Plain English Introduction, Scatterplot Press; 2nd edition.
3. Andreas C. Müller, Sarah Guido, Introduction to Machine Learning with Python: A Guide for Data Scientists, O'Reilly; 1st edition
4. <https://www.cmpe.boun.edu.tr/~ethem/i2ml3e/>

**Paper Code:FS-COMP-MSC-CS-CC-404-405**

**Paper Name: Combined Practical & Project/Dissertation/Industrial Training**

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### Course Objectives:

- CO1. Identify and define the problem statement
- CO2. Define and justify the scope of the proposed problem
- CO3. Gather and analyze system requirements
- CO4. Propose an optimized solution among the existing solutions
- CO5. Practice software analysis and design techniques
- CO6. Develop technical report writing and oral presentation skills
- CO7. Develop a functional application based on the software design
- CO8. Apply to code, debugging, and testing tools to enhance the quality of the software
- CO9. Prepare the proper documentation of software projects following the standard guidelines
- CO10. Become a master in specialized technology
- CO11. Become updated with all the latest changes in the technological world.
- CO12. Ability to communicate efficiently.
- CO13. Ability to be a multi-skilled engineer with sound technical knowledge, management, leadership, and entrepreneurship skills.
- CO14. Capability and enthusiasm for self-improvement through continuous professional development and life-long learning
- CO15. Awareness of the social, cultural, global, and environmental responsibility of an engineer.

### Learning Outcomes

After completing this course, students will be able to:

- LO1. Identify and define the problem statement
  - LO2. Define and justify the scope of the proposed problem
  - LO3. Gather and analyze system requirements
  - LO4. Propose an optimized solution among the existing solutions
  - LO5. Practice software analysis and design techniques
  - LO6. Develop technical report writing and oral presentation skills
  - LO7. Develop a functional application based on the software design
  - LO8. Apply to code, debugging, and testing tools to enhance the quality of the software
  - LO9. Prepare the proper documentation of software projects following the standard guidelines
  - LO10. Become a master in specialized technology
  - LO11. Become updated with all the latest changes in the technological world.
  - LO12. Ability to communicate efficiently.
  - LO13. Ability to be a multi-skilled engineer with sound technical knowledge, management, leadership, and entrepreneurship skills.
  - LO14. Capability and enthusiasm for self-improvement through continuous professional development and life-long learning
  - LO15. Awareness of the social, cultural, global, and environmental responsibility of an engineer.
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# Masters in Computer Science (Semester System)

## Choice Based Credit System

### Practical Training and Project Work:

1. Project Work may be done individually or in groups in case of bigger projects. However, if the project is done in groups, each student must be given responsibility for a distinct module and care should be taken to monitor the individual student.
2. Project Work can be carried out in the college or outside with prior permission of the college.
3. The Student must submit a synopsis of the project report to the college for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of the draft project report, the student should make the final copies.

### Submission Copy:

The Student should submit a spiral-bound copy of the project report.

### Format of the Project:

1. **Paper:**  
The Report shall be typed on White Paper of A4 size.
2. **Final Submission:**  
The Report to be submitted must be original.
3. **Typing:**  
**Font:-** Times New Roman  
**Heading:-** 16 pt., Bold  
**Subheading:-** 14 pt, Bold  
**Content:-** 12 pt.  
**Line Spacing:-** 1.5 lines.  
**Typing Side :-** One Side  
**Font Color:-** Black.
4. **Margins:**  
The typing must be done in the following margin:  
**Left :** 0.75”  
**Right:** 0.75”  
**Top:** 1”  
**Bottom:** 1”  
**Left Gutter:** 0.5”
5. **Binding:**  
The report shall be Spiral Bound.
6. **Title Cover:**  
The Title cover should contain the following details:  
**Top:** Project Title in block capitals of 16pt.  
**Centre:** Name of project developer's and Guide name.  
**Bottom:** Name of the university, Year of submission all in block capitals of 14pt letters on separate lines with proper spacing and centering.
7. **Blank sheets:**  
At the beginning and end of the report, two white blank papers should be provided, one for the Purpose of Binding and other to be left blank.
8. **Content:**
  - I). Acknowledgment
  - II). Institute/College/Organization certificate where the project is being developed.
  - III). Table of contents
  - IV). A brief overview of the project
  - V). Profiles of problems assigned
  - VI). Study of Existing System
  - VII). System Requirement
  - VIII). Project plan
    - a). Team Structure
    - b). Development Schedule
    - c). Programming language and Development Tools
  - IX). Requirement Specification
  - X). Design
    - a). Detailed DFD and Structure Diagram
    - b). Data structure, Database and File Specification
  - XI). Project Legacy
    - a). Current Status of project

# Masters in Computer Science (Semester System)

## Choice Based Credit System

- Remaining Areas of concern
- Technical and Managerial Lessons Learnt
- Future Recommendations
- Nomenclature and Abbreviations.
- Bibliography
- Source Code

### Teaching-Learning Process

The teaching learning process may include the following-

- Lectures
- Discussions
- Simulations
- Virtual Labs
- Role Playing
- Participative Learning
- Interactive Sessions
- Seminars
- Research-based Learning/ Dissertation/ Case Study/ Project Work

The Blended Learning mode of teaching and learning is preferable in which offline (face-to-face) and online learning both are used to provide learners the opportunity to enjoy both of the worlds. Teachers can share instructions, lecture notes, and assignments online. On the other hand, students can share information/work/assignments with teachers and other students directly in a collaborative setting. This may have a more enriched learning experience, and collaboration between students can be improved upon if group activities rely on information gathered from online resources or lessons. Students who complete online coursework followed by interactive, face-to-face class activities have richer educational experiences.

### Assessment and Evaluation

- A comprehensive and continuous evaluation by mid-semester examinations at regular intervals to find out each course level learning outcome
- Formative assessment on the basis of activities of a learner throughout the program instead of one assessment. for this provision of internal exams, student seminars, and assignments is included
- Open book exam is suggested for internal/ mid-term exams to better facilitate the understanding of the knowledge required
- Group examinations are recommended on problem-solving exercises and in major projects to enhance the teamwork capabilities of the learner
- Collaborative/Individual assignments are useful to enhance the capability of learners to gain domain-specific knowledge
- Student Seminars and Quizzes are recommended for the continuous learning and evaluation process

### ELIGIBILITY FOR ADMISSION

Graduates possessing 50% marks in any faculty of any statutory university shall be eligible for admission to the M.Sc. Computer Science Course (Relaxation to SC/ST etc. as per Prevailing Rules)

### PASS CRITERIA

For passing in the examination, a candidate is required to obtain at least a Satisfactory Grade in each paper (Internal + External) and also acquire a Satisfactory Grade in theory and practical separately (in each semester examination).

### INSTRUCTIONS TO PAPER SETTER

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit). **Section-B** will consist of 9 questions (3 questions from each unit). **Section C** will consist of 6 questions (2 questions from each unit).

The word limit of parts A, B, and C are 50, 200, and 500 respectively

### INSTRUCTIONS FOR PRACTICAL EXAMINATION

Marks Distribution for Practical Exam -

Each practical exam is to be conducted by two examiners one External and one Internal. The external examiner should be a senior lecturer from the jurisdiction of other universities. Credit Weightage distribution for external practical of 4 credits is as under

- |  |           |
|--|-----------|
| a) Practical Examination exercise of 3 questions | 2 credits |
| b) Viva-Voce                                     | 1 credit  |
| c) Laboratory Exercise File                      | 1 credit  |

Marks distribution for External Project report of 40 marks is as under

External Evaluation-

- |                              |           |
|------------------------------|-----------|
| Research Project/ Case Study | 2 credits |
|------------------------------|-----------|

# Masters in Computer Science (Semester System)

## Choice Based Credit System

|                                   |          |
|-----------------------------------|----------|
| Presentation                      | 1 credit |
| External Viva Voce                | 1 credit |
| Internal Evaluation- Dissertation | 1 credit |

### INSTRUCTIONS FOR STUDENTS

The student has to complete two months of career-oriented summer training from any firm/organization. If the student does not get a chance to go for training, he/she can choose a research topic and can complete the dissertation under the supervision of any of the faculty in his college.

The student who has to opt for training has to provide a signed certificate from the firm/ organization authority stating that the student has spent two months as a trainee in his organization/firm. The student who has opted for a dissertation has to submit his/her dissertation report with a certificate from his supervisor.

In both cases, the student has to present his work in front of all the faculty members and fellow students at the starting of the next session.

In terms of credits, every one-hour session of L amounts to 1 credit per semester and a minimum of two-hour sessions of T or P amounts to 1 credit per semester.

**\* An Academic/ Industrial Tour shall be organized by the college/department in every session. A Tour Report shall be prepared and submitted by the students after a study tour to industries/academic institutions of repute.**

### EVALUATION

|                       |                        |     |     |
|-----------------------|------------------------|-----|-----|
| Internal Assessment - | Midterm Examination    | 10% |     |
|                       | Term paper             |     | 10% |
| External Assessment-  | Students Participation | 5%  |     |
|                       |                        | 75% |     |

### Examination Paper Pattern

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit). **Section-C** will consist of 6 questions (2 questions from each unit). The word limit of part A, B and C are 50, 200 and 500 respectively

### Key Features of Revised Curriculum

Following are the key features of the revised curriculum-

- Student Centric Teaching and Learning approach
- Technology oriented approach of teaching
- Hand-on Practical/ Laboratory Sessions
- Problem-oriented teaching and learning
- Problem-analysis oriented assignments and evaluation
- Enhance logical thinking and analytical capabilities

### Appendices

List of Open Electives offered by the University -

Post Graduate Diploma in Computer Application

**EXAMINATION 2022**

M. G. S. UNIVERISTY, BIKANER

SYLLABUS

SCHEME OF EXAMINATION AND

COURSES OF STUDY

FACULTY OF COMPUTER SCIENCE

**PGDCA – 2022**



Maharaja Ganga Singh University

Bikaner

## Post Graduate Diploma in Computer Application

### EXAMINATION 2022

#### SCHEME OF EXAMINATION

##### 1. ELIGIBILITY FOR ADMISSION

Graduates of any statutory university shall be eligible for admission to the PGDCA Course. (Eligibility Marks/ Relaxation to SC/ST etc. as per Government/University Rules)

##### 2. PASS CRITERIA

The examinee has to secure at least 36% marks to pass the examination and 25% marks in each individual paper. Even if he/she will be failed in one paper/course, he/she will be declared fail. She/he however should be allowed one more chance to take the examination as Ex-student. In such a case, the marks of practical/ tutorials etc shall be carried forward for the said purpose.

##### 3. CLASSIFICATION OF SUCCESSFUL CANDIDATE

| Division        | Total Marks             |
|-----------------|-------------------------|
| First Division  | 60% and above           |
| Second Division | Above 48% and below 60% |
| Pass            | Above 36% and below 48% |
| Fail            | Below 36%               |

##### 4. INSTRUCTIONS TO PAPER SETTER

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively

##### 5. WORKLOAD

At least 3 classes for theory class and 3 classes for practical lab should be assigned per week for each paper.

##### 6. INSTRUCTIONS FOT PRACTICAL EXAMINATION

Marks Distribution for Practical Exam -

Each practical exam is to be conducted by two examiners one External and one Internal. External examiner should be senior lecturer from jurisdiction of MGS University. External examiner will prepare question paper of Practical Examination. Students have to perform exercise on computer. Exercise must be written in answer books in proper documentation.

Marks distribution for Practical of 50 marks is as under

|  |          |
|--|----------|
| i) Three Exercise of 10 marks each<br>(Logic 04, Execution 03, Documentation 03) | 30 Marks |
| ii) Viva-Voce  | 10 Marks |
| iii) Laboratory Exercise File  | 10 marks |

Marks distribution for Project of 100 marks is as under

|  |          |
|--|----------|
| i) Project Dissertation and Presentation | 75 marks |
| ii) External Viva Voce                   | 25 marks |

Teaching and Examination scheme

**Post Graduate Diploma in Computer Application**

**EXAMINATION 2022**

| Paper   | Paper Name(Theory)           | Lect/<br>week | Tuto/<br>week | Exam<br>Hours | Max.<br>Marks | Min.<br>Pass.<br>Marks               |
|---|------------------------------|---------------|---------------|---------------|---------------|--------------------------------------|
| <b>Theory Papers</b>                            |                              |               |               |               |               |                                      |
| PGDCA-101                                       | Computer Organization        | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                   |
| PGDCA-102                                       | Programming with C++         | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                   |
| PGDCA-103                                       | Database System              | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                   |
| PGDCA-104                                       | Operating System             | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                   |
| PGDCA-105                                       | Computer Networks            | 3             | 1             | 3             | 50            | <b>13</b><br>(25%)                   |
| <b>Total of Theory Papers</b>                   |                              |               |               |               | <b>250</b>    | <b>90</b><br>(36%<br>aggregate<br>)  |
| <b>Paper Name (Practical)</b>                   |                              |               |               |               |               |                                      |
| PGDCA-106                                       | Research Project/ Case Study | 3             | 1             | 3             | 100           | <b>25</b><br>(25%)                   |
| PGDCA107  | C++ Lab                      | 3             |               | 3             | 50            | <b>13</b><br>(25%)                   |
| PGDCA 108                                       | DBMS Lab                     | 3             |               | 3             | 50            | <b>13</b><br>(25%)                   |
| <b>Total of Practical Papers</b>                |                              |               |               |               | <b>200</b>    | <b>72</b><br>(36%<br>aggregate<br>)  |
| <b>Grand Total (Theory 250 + Practical 200)</b> |                              |               |               |               | <b>450</b>    | <b>162</b><br>(36%<br>aggregate<br>) |

**Paper Code: PGDCA-101**

**Paper Name : Computer Organization**

**Scheme of Examination**

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

## Post Graduate Diploma in Computer Application

### EXAMINATION 2022

#### Unit I

**Components of a Computer:** Processor, Memory, Input-Output Unit, Difference between Organization and Architecture, Hardware Software Interaction. **Number System:** Concept of Bit and Byte, types and conversion. **Complements:** 1's complement, 2's complement. **Binary Arithmetic:** Addition, overflow, subtraction, multiplication (Booth's algorithm) and division algorithm.

#### Unit II

**Logic gates:** Boolean Algebra, Map Simplification. **Combinational circuits:** Half Adder, Full Adder, Decoders, Multiplexers. **Sequential circuits:** Flip Flops- SR, JK, D, T Flip-Flop.

#### Unit III

**Input Output Organization:** Peripheral devices, I/O Interface, Asynchronous Data Transfer, Modes of Data Transfer, Direct Memory Access, I/O Processor.

#### Unit IV

**Memory Organization:** Types and capacity of Memory, Memory Hierarchy, Cache Memory, Virtual Memory.

#### Unit V

**Intel 8085 Microprocessor:** Introduction, ALU, Timing and Control Unit, Register Set, Data and Address Bus, Addressing modes, Complete Intel 8085 Instruction set, Instruction format, Opcode and Operand, Word Size, Intel 8085 programs.

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#### Suggested Readings

1. Computer System Architecture, By M. Morris Mano (Pearson, Prentice Hall)
2. Carter Nicholas, "Computer Architecture", Schaun outline Sevier, Tata McGraw-Hill.
3. J.P. Hayes, "Computer Architecture & Organization", Tata McGraw Hill
4. Digital Computer Fundamentals By Thomas C. Batre (McGraw Hill)
5. Microprocessor Architecture, Programming, and Application With the 8085 By Ramesh Gaonkar (PENRAM)
6. Fundamentals of Microprocessor and Microcomputes By B.Ram (Danpat Rai Publications)

**Paper Code: PGDCA-102**

**Paper Name : Programming with C++**

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#### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### Unit I

**Object Oriented System:** Difference Between Procedural and Object Oriented Languages, Object Oriented Paradigm, Inheritance, Polymorphism, Abstraction, Encapsulation, Benefits and Application of OOPS. **Introduction to C++:** Character Set, Token, Constants, Variables and Data Types, Enumeration Types, Operators, Expressions, Operator Precedence and Associativity, Input, Output, Conditional Statements, Scope of Variables, Type Conversion.

#### Unit II

## Post Graduate Diploma in Computer Application

### EXAMINATION 2022

Iteration, Break, Continue, goto; Pointers: Introduction, implementation advantage and disadvantage. Functions - Standard and User-Defined Function, Recursive Function, Passing By Value And Reference, Function Overloading.

#### Unit III

Array: introduction, advantage, One, Two and Multidimensional, String Processing. Class: Introduction to Class and Object, Declaring Members and Methods in a class, declaring objects.

#### Unit IV

Functions and objects, Inline Function, Friend Functions and Its Usage, Abstract Class, Function Overriding. Constructor and Destructor- Needs and Its Usage, Types of Constructors, Destructor, Static Data Members and Methods. Inheritance - Need of Inheritance, Types of Inheritance and its implementation.

#### Unit V

Operator Overloading: Need and Rules of Operator Overloading, Overloading Through Member Function and Friend Function. Compile Time and Run Time Polymorphism- Virtual Function and virtual class. **Additional Features of C++11, C++14 and C++17.**

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#### Suggested Readings

1. Object Oriented Programming With C++ By E. Balagurusamy (Tata Mcgraw Hill)
2. C++ The Complete Reference By Herbert Schildt (Tata Mcgraw Hill)
3. Object Oriented Programming With C++ By Schaum Series (Tata Mcgraw Hill)
4. **C++11 for Programmers (Deitel Developer) by Paul J. Deitel (Author), Harvey M. Deitel, Prentice Hall; 2nd edition**
5. **Professional C++ by Marc Gregoire, Nicholas A. Solter and Scott J.Kleper (Goodreads Publications)**
6. **A Tour of C++ by Bjarne Stroustrup, 2018**
7. **C++17 in Detail by Bartłomiej Filipek**

**Paper Code: PGDCA-103**

**Paper Name : Database Management**

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#### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### Unit I

Introduction: Characteristics of database approach, Advantages, Database system architecture, Overview of different types of Data Models and data independence, Schemas and instances, Database languages and interfaces; E-R Model : Entities, Attributes, keys, Relationships, Roles, Dependencies, E-R Diagram.

#### Unit II

Introduction to Relational model, Constraints: Domain ,Key, Entity integrity, Referential integrity; Keys: Primary, Super, Candidate, Foreign; Relational algebra: select, project, union, intersection, minus, cross product, different types of join , division operations; aggregate functions and grouping.

## Post Graduate Diploma in Computer Application

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#### Unit III

SQL: Data Types, statements: select, insert, update, delete, create, alter, drop; views, SQL algebraic operations, nested queries; Stored procedures: Advantages, Variables, creating and calling procedures, if and case statements, loops, Cursors, Functions, Triggers.

#### Unit IV

Normalization: Definition, Functional dependencies and inference rules, 1NF, 2NF, 3NF and BCNF; Transactions processing: Definition, desirable properties of transactions, serial and non-serial schedules, concept of serializability, conflict-serializable schedules.

#### Unit V

Concurrency Control: Two-phase locking techniques, dealing with Deadlock and starvation, deadlock prevention protocols, basic timestamp ordering algorithm; Overview of database recovery techniques; concept of data warehousing.

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#### Suggested Readings

1. Fundamentals of Database Systems, Ramez A. Elmasri, Shamkant Navathe, 5<sup>th</sup> Ed (Pearson)
2. Database System Concepts By Korth, Silberschatz, Sudarshan (Mcgraw Hill)
3. An Introduction to Database Systems By Bipin C. Desai (Galgotia Publication.)
4. SQL, PL/SQL Programming By Ivan Bayross (BPB)
5. Commercial Application Development Using Oracle Developer 2000 By Ivan Bayross (BPB)
6. <http://www.mysqltutorial.org/mysql-stored-procedure-tutorial.aspx>

**Paper Code: PGDCA-104**

**Paper Name : Operating System**

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#### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### Unit I

Introduction to Operating System, layered Structure, Functions, Types; Process: Concept, Process States, PCB; Threads, System calls; Process Scheduling: types of schedulers, context switch.

#### Unit II

CPU Scheduling, Pre-Emptive Scheduling, Scheduling Criteria- CPU Utilization, Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling Algorithms- FCFS, SJF, Priority Scheduling, Round Robin Scheduling, MLQ Scheduling, MLQ With Feedback.

#### Unit III

Synchronization: Critical Section Problem, Requirements for a solution to the critical section problem; Semaphores, simple solution to Readers-Writers Problem. Deadlock: Characterization, Prevention, Avoidance, Banker's Algorithm, Recovery from Deadlock.

#### Unit IV

Memory Management: Physical and virtual address space, Paging, Overview of Segmentation; Virtual Memory Management: Concept, Page Replacement techniques- FIFO, LRU, Optimal. Linux: features of Linux, steps of Installation, Shell and kernel, Directory structure.

## Post Graduate Diploma in Computer Application

### EXAMINATION 2022

#### Unit V

Linux: Users and groups, file permissions, commands- ls, cat, cd, pwd, chmod, mkdir, rm, rmdir, mv, cp, man, apt, cal, uname, history etc. ; Installing packages; Shell scripts: writing and executing a shell script, shell variables, read and expr, decision making (if else), for and while loops.

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#### Suggested Readings

1. Operating System Principals By Abraham Silberschatz, Peter Baer Galvin (John Wiley And Sons Inc.)
2. Operating System Concepts And Design By Milan Milen Kovic (Tata McGraw Hill)
3. Modern Operating System Andrew S. Tanenbaum, Herbert Bos
4. Linux in easy steps, Mike McGrath, in easy steps limited
5. Unix concepts and applications , TMH, Sumitabha Das

**Paper Code: PGDCA-105**

**Paper Name : Computer Networks**

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#### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

The question paper contains 3 sections. **Section-A** consists of 10 questions (2 questions from each unit of syllabus). **Section-B** consists of 10 questions (2 questions from each unit of syllabus). **Section-C** consists of 5 questions (1 question from each unit syllabus). The word limit of part A, B and C are 50, 200 and 500 respectively.

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#### Unit - I

**Data Communication and Networking:** Overview, Network Types, LAN Technologies, Topologies, Models- OSI Model, TCP/IP Stack, Security

#### Unit - II

**Physical Layer:** Introduction, Impairments, Performance, Digital Transmission, modes, digital to digital, analog to digital, Analog Transmission, digital to analog, analog to analog, Transmission media, Wireless Transmission, **Switching techniques:** Circuit Switching, Packet switching, Message switching.

#### Unit - III

**Data Link Layer:** Introduction, Data Link Control: Line Discipline- Enq/Ack, Poll/Select, **Flow Control** : Stop And Wait, Sliding Window, **Error Control** : ARQ, Stop and Wait ARQ, Sliding Window ARQ.

#### Unit - IV

**Network Layer:** Introduction, Network Addressing, Routing, Internetworking, Tunneling, Packet Fragmentation, Network Layer Protocols, ARP, ICMP, IPv4, IPv6

#### Unit V

**Transport Layer:** Introduction, Function, End to end communication, Transmission Control Protocol, User Datagram Protocol

**Application Layer:** Introduction, Client-Server Model, Application Protocols, Network Services

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#### Suggested Readings

1. Data Communication and Networking By Forozan (Tata McGraw Hill)
2. Data Communication And Computer Networks By Dr. Madhulika Jain, Satish Jain (BPB)
3. William Stallings, "Data and Computer Communications", Pearson Education, 2008.
4. Rajneesh Agrawal and Bharat Bhushan Tiwari, "Data Communication and Computer

## Post Graduate Diploma in Computer Application

### EXAMINATION 2022

Networks”, Vikas Publishing house Ltd. , 2005.

5. A. S. Tanenbaum, “Computer Networks”, Fourth Edition, Pearson Education.

**Paper Code: PGDCA-106**

**Paper Name : Project**

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#### Scheme of Examination

Maximum Marks: 50

Duration: 3 Hours

Minimum Passing Marks: 13

Marks distribution for Project of 100 marks is as under-

|  |          |
|--|----------|
| i) Project Dissertation and Presentation | 75 marks |
| ii) External Viva Voce                   | 25 marks |

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#### Practical Training and Project Work:

1. Project Work may be done individually or in groups in case of bigger projects(maximum two). However if project is done in group each student must be given a responsibility for a distinct module and care should be taken to monitor the individual student.
2. Project Work can be carried out in the college or outside with prior permission of college.
3. The Student must submit a synopsis of the project report to the college for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of draft project report the student should make the final copies.
4. **Project report should be hand written**

#### Submission Copy:

The Student should submit Spiral bound copy of the project report.

#### Format of the Project:

- (a) **Paper:**  
The Report shall be typed on White Paper of A4 size.
- (b) **Final Submission:**  
The Report to be submitted must be original.
- (c) **Typing:**  
**Font:-** Times New Roman  
**Heading:-** 16 pt., Bold  
**Subheading:-** 14 pt, Bold  
**Content:-** 12 pt.  
**Line Spacing:-** 1.5 line.  
**Typing Side :-**One Side  
**Font Color:-** Black.
- (d) **Margins:**  
The typing must be done in the following margin:  
**Left :** 0.75”  
**Right:** 0.75”  
**Top:** 1”  
**Bottom:** 1”  
**Left Gutter:** 0.5”
- (e) **Binding:**  
The report shall be Spiral Bound.
- (f) **Title Cover:**  
The Title cover should contain the following details:  
**Top:** Project Title in block capitals of 16pt.

## Post Graduate Diploma in Computer Application

### EXAMINATION 2022

**Centre:** Name of project developer's and Guide name.

**Bottom:** Name of the university, Year of submission all in block capitals of 14pt letters on separate lines with proper spacing and centering.

(g) **Blank sheets:**

At the beginning and end of the report, two white blank papers should be provided, one for the Purpose of Binding and other to be left blank.

(h) **Content:**

- I). Acknowledgement
- II). Institute/College/Organization certificate where the project is being developed.
- III). Table of contents
- IV). A brief overview of project
- V). Profiles of problem assigned
- VI). Study of Existing System
- VII). System Requirement
- VIII). Project plan
  - o Team Structure
  - o Development Schedule
  - o Programming language and Development Tools
- IX). Requirement Specification
- X). Design
  - o Detailed DFD's and Structure Diagram
  - o Data structure, Database and File Specification
- XI). Project Legacy
  - o Current Status of project
  - o Remaining Areas of concern
  - o Technical and Managerial Lessons Learnt
  - o Future Recommendations
- XII). Nomenclature and Abbreviations.
- XIII). Bibliography
- XIV). Source Code.

M.Sc.(Computer Science) Lateral Entry

M. G. S. UNIVERISTY, BIKANER

SYLLABUS

SCHEME OF EXAMINATION AND

COURSES OF STUDY

FACULTY OF COMPUTER SCIENCE

M.SC. COMPUTER (LATERAL ENTRY)

Department of Computer Science



Maharaja Ganga Singh University

Bikaner

**Learning Outcome-based Curriculum Framework (LOCF)**

**for**

**M.Sc.(Computer Science) Lateral Entry**

# M.Sc.(Computer Science) Lateral Entry

## Table of Contents

| S.No. | Item  | Page No |
|-------|---|---------|
| 1     | Background                                  | 3       |
| 2     | Programme Outcomes (POs)                    | 5       |
| 3     | Programme Specific Outcomes (PSOs)          | 7       |
| 4     | Post Graduate Attributes                    | 8       |
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### Background

Considering the curricular reforms as instrumental for desired learning outcomes, all the academic departments of Maharaja Ganga Singh University Bikaner, made a rigorous attempt to revise the curriculum of postgraduate programs in alignment with National Education Policy-2020 and UGC Quality Mandate for Higher Education Institutions-2021. The process of revising the curriculum could be prompted with the adoption of the “Comprehensive Roadmap for Implementation of NEP-2020”. The Roadmap identified the key features of the Policy and elucidated the Action Plan with well-defined responsibilities and an indicative timeline for major academic reforms.

The process of revamping the curriculum started with a series of webinars and discussions conducted by the University to orient the teachers about the key features of the Policy, enabling them to revise the curriculum in sync with the Policy. Proper orientation of the faculty about the vision and provisions of NEP-2020 made it easier for them to appreciate and incorporate the vital aspects of the Policy in the revised curriculum focused on creating holistic thoughtful, creative, and well-rounded individuals equipped with the key 21st-century skills ‘for the development of an enlightened, socially conscious, knowledgeable, and skilled nation’.

With NEP-2020 in the background, the revised curricula articulate the spirit of the Policy by emphasising upon - an integrated approach to learning; innovative pedagogies and assessment strategies; multidisciplinary and cross-disciplinary education; creative and critical thinking; ethical and Constitutional values through value-based courses; 21st century capabilities across the range of disciplines through life skills, entrepreneurial and professional skills; community and constructive public engagement; social, moral, and environmental awareness; Organic Living and Global Citizenship Education (GCED); holistic, inquiry-based, discovery-based, discussion-

## M.Sc.(Computer Science) Lateral Entry

based and analysis-based learning; exposure to Indian knowledge system, cultural traditions and literature through relevant courses offering “Knowledge of India, fine blend of modern pedagogies with indigenous and traditional ways of learning; flexibility in course choices, student-centric participatory learning; imaginative and flexible curricular structures to enable creative combinations of disciplines for study; offering multiple entry and exit points, alignment of Vocational courses with the International Standard Classification of Occupations maintained by the International Labor Organization; breaking the silos of disciplines; integration of extra-curricular and curricular aspects, exploring internships with local industry, businesses and artists and craft persons; closer collaboration between industry and higher education institutions for technical, vocational, and science programs, and formative assessment tools to be aligned with the learning outcomes, capabilities, and dispositions as specified for each course. The university has also developed a consensus on Blended Learning with 10% component of online teaching and 60% face-to-face classes for each program.

The revised curricula of various programs could be devised with concerted efforts of the faculty, Heads of the Departments, and the Deans of Schools of Study. The draft prepared by each department was discussed in a series of discussion sessions conducted at the Department, School, and University levels. The leadership of the University has been a driving force behind the entire exercise of developing the uniform template and structure for the revised curriculum. The Vice-Chancellor of the University conducted series of meetings with Heads and Deans to deliberate upon the vital parameters of the revised curriculum to formulate a uniform template featuring Background, Programme Outcomes, Programme Specific Outcomes, Postgraduate Attributes, Structure of Masters Course, Learning Outcome Index, Semester-wise Courses and Credit Distribution, Course-level Learning Outcomes, Teaching-Learning Process, Blended Learning, Assessment and Evaluation, Keywords, References, and Appendices. The experts of various Board of Studies and School Boards contributed to a large extent in giving the final shape to the revised curriculum of each program.

To ensure the implementation of curricular reforms envisioned in NEP-2020, the University has decided to implement various provisions in a phased manner. Therefore, the curriculum may be reviewed annually so as to gradually include all relevant provisions of NEP-2020.

### Program Outcomes

On completing Masters in the Faculty of Science, the students shall be able to realize the following outcomes:

| PO  | Description  |
|-----|--|
| PO1 | Acquired knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, etc.  |
| PO2 | Understood the basic concepts, fundamental principles, and scientific theories related to various scientific phenomena and their relevance in day-to-day life.                                     |
| PO3 | Acquired the skills in handling scientific instruments, planning, and performing laboratory experiments The skills of observations and drawing logical inferences from the scientific experiments. |
| PO4 | Analyzed the given scientific data critically and systematically and the ability to draw objective conclusions.  |

## M.Sc.(Computer Science) Lateral Entry

|      |   |
|------|---|
| PO5  | Been able to think creatively (divergent and convergent) to propose novel ideas in explaining facts and figures or providing new solutions to problems.   |
| PO6  | Realized how developments in any science subject help develop other science subjects and vice-versa and how interdisciplinary approach helps provide better solutions and new ideas for sustainable outcomes.                     |
| PO7  | Developed a scientific outlook concerning science subjects and all aspects related to life.   |
| PO8  | Realized that knowledge of subjects in other faculties such as humanities, performing arts, social sciences, etc., can have greatly and effectively influence, which inspires in evolving new scientific theories and inventions. |
| PO9  | Imbided ethical, moral, and social values in personal and social life, leading to a highly cultured and civilized personality.  |
| PO10 | Developed various communication skills such as reading, listening, speaking, etc., which will help express ideas and views clearly and effectively.   |
| PO11 | Realized that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.   |

### Program Specific Outcomes (PSO)

On completing Masters in the M.Sc. in Computer Science Lateral Entry, the students shall be able to realize the following outcomes:

| PSO  | Description   |
|------|---|
| PSO1 | Communicate computer science concepts, designs, and solutions effectively and professionally  |
| PSO2 | Apply knowledge of computing to produce effective designs and solutions for specific problems   |
| PSO3 | Use software development tools, software systems, and modern computing platforms  |
| PSO4 | To have the knowledge and the ability to develop creative solutions   |
| PSO5 | To develop skills to learn new technology   |
| PSO6 | To develop critical reasoning   |
| PSO7 | To apply computer science theory and software development concepts to construct computing-based solutions   |
| PSO8 | To design and develop computer programs/computer-based systems in the area related to algorithms, networking, web design, cloud computing, Artificial Intelligence, Mobile applications |

## M.Sc.(Computer Science) Lateral Entry

|       |  |
|-------|--|
| PSO9  | The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity  |
| PSO10 | The ability to understand the evolutionary changes in computing, apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success, real-world problems, and meet the challenges of the future |
| PSO11 | The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, lifelong learning and a zest for higher studies and also to act as a good citizen by inculcating in them moral values & ethics                           |

### Postgraduate Attributes

- Disciplinary Knowledge
- Creative & Critical Thinking
- Reasoning and Analytical abilities
- Logic/Discrete Mathematics knowledge
- Logical Thinking
- Problem analysis and solving abilities
- Life Skills
- Moral & Ethical Values
- Research Skills

### Structure of Masters' Programme

Scheme for  
M.Sc. Computer Science Lateral Entry (Semester I)  
Examination 2021  
Session 2021-22

| Semester I          |                      |                 |            |            |            |            |   |   |    |         |
|---------------------|----------------------|-----------------|------------|------------|------------|------------|---|---|----|---------|
|                     | Course Code          | Course Title    | Exam Hours | Max. Marks |            | Min. Marks | L | T | P* | Credits |
|                     |                      |                 |            | Int. Marks | Ext. Marks |            |   |   |    |         |
| <b>Core Courses</b> |                      |                 |            |            |            |            |   |   |    |         |
| 1                   | FS-COMP-MCSLE-CC-101 | Data Structures | 3          | 10         | 40         | 13 (25%)   | 3 | 1 | 1  | 5       |
| 2                   | FS-COMP-MCSLE-CC-102 | Java            | 3          | 10         | 40         | 13 (25%)   | 3 | 1 | 1  | 5       |

## M.Sc.(Computer Science) Lateral Entry

|                               |                      |   |   |    |    |          |                                       |   |   |   |
|-------------------------------|----------------------|---|---|----|----|----------|---------------------------------------|---|---|---|
| 3                             | FS-COMP-MCSLE-CC-103 | a) Software Engineering & Research Methodology<br>b) Artificial Intelligence<br>c) Python<br>d) Theory of Computation | 3 | 10 | 40 | 13 (25%) | 3                                     | 1 | 1 | 5 |
| 4                             | FS-COMP-MCSLE-CC-104 | a) Data Analysis Using R<br>b) Introduction to LaTeX  | 3 | 10 | 40 | 13 (25%) | 3                                     | 1 | 1 | 5 |
| 5                             | FS-COMP-MCS-CP-105   | Combined Practical  | 3 | 25 | 75 | 26 (25%) | *combined practical of above subjects |   |   |   |
| <b>Core Foundation Course</b> |                      |   |   |    |    |          |                                       |   |   |   |
| 1                             | FS-COMP-MCS-FC-106   | Computer Fundamentals   | 3 | 10 | 40 | 13 (25%) | 4                                     | 2 | 2 | 5 |

**Scheme for  
M.Sc. Computer Science (Semester II)  
Examination 2022  
Session 2021-22**

| <b>Semester II</b>            |                       |   |            |            |            |            |                                       |   |    |         |
|-------------------------------|-----------------------|---|------------|------------|------------|------------|---------------------------------------|---|----|---------|
|                               | Course Code           | Course Title  | Exam Hours | Max. Marks |            | Min. Marks | L                                     | T | P* | Credits |
|                               |                       |   |            | Int. Marks | Ext. Marks |            |                                       |   |    |         |
| <b>Core Courses</b>           |                       |   |            |            |            |            |                                       |   |    |         |
| 1                             | FS-COMP-MSC-LE-CC-201 | Computer Graphics & Multimedia  | 3          | 10         | 40         | 13 (25%)   | 3                                     | 1 | 1  | 5       |
| 2                             | FS-COMP-MSC-LE-CC-202 | Android Programming   | 3          | 10         | 40         | 13 (25%)   | 3                                     | 1 | 1  | 5       |
| 3                             | FS-COMP-MSC-LE-CC-203 | a) Cloud Computing<br>b) Internet of Things<br>c) Big Data & Data Mining<br>d) Machine Learning | 3          | 10         | 40         | 13 (25%)   | 3                                     | 1 | 1  | 5       |
| 4                             | FS-COMP-MSC-LE-CC-204 | a) Natural Language Processing<br>b) Introduction to Cyber Security                             | 3          | 10         | 40         | 13 (25%)   | 3                                     | 1 | 1  | 5       |
| 5                             | FS-COMP-MSC-LE-CP-205 | Combined Practical & Project  | 3          | 20         | 80         | 13 (25%)   | *combined practical of above subjects |   |    |         |
| <b>Core Foundation Course</b> |                       |   |            |            |            |            |                                       |   |    |         |
| 1                             | FS-COMP-MSC-LE-FC-206 | Computer Moral Values   | 3          | 10         | 40         | 13 (25%)   | 4                                     | 2 | 2  | 5       |

# M.Sc.(Computer Science) Lateral Entry

## Learning Outcome Index

Learning Outcomes are statements of knowledge, skills, and abilities a student should possess and demonstrate upon completion of learning experiences.

### I. Programme Outcomes(PO) and Programme Specific Outcomes (PSO)

|      | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 | PSO7 | PSO8 | PSO9 | PSO10 | PSO11 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|
| PO1  | X    | X    | X    | X    | X    | X    | X    | X    |      | X     | X     |
| PO2  | X    |      | X    |      | X    | X    | X    | X    | X    | X     | X     |
| PO3  | X    | X    | X    |      | X    | X    | X    | X    | X    | X     | X     |
| PO4  | X    | X    | X    | X    | X    | X    |      | X    | X    | X     | X     |
| PO5  | X    | X    | X    | X    | X    | X    | X    | X    | X    | X     | X     |
| PO6  | X    | X    | X    | X    | X    | X    | X    |      |      | X     | X     |
| PO7  |      |      |      | X    | X    |      | X    |      | X    | X     | X     |
| PO8  |      | X    |      | X    |      | X    | X    | X    |      |       | X     |
| PO9  | X    | X    |      | X    | X    |      | X    | X    |      |       | X     |
| PO10 | X    | X    | X    |      | X    |      |      |      | X    |       | X     |
| PO11 | X    | X    | X    |      | X    | X    | X    | X    | X    | X     | X     |

### II. Programme Specific Outcomes (PSO) and Core Courses (CC)

|       | MCSLE 101 | MCSLE 102 | MCSLE 201 | MCSLE 202 |
|-------|-----------|-----------|-----------|-----------|
| PSO1  | X         | X         | X         | X         |
| PSO2  | X         | X         | X         | X         |
| PSO3  | X         | X         |           | X         |
| PSO4  | X         | X         | X         | X         |
| PSO5  | X         | X         | X         | X         |
| PSO6  |           |           | X         |           |
| PSO7  | X         | X         | X         | X         |
| PSO8  | X         | X         |           | X         |
| PSO9  | X         | X         | X         | X         |
| PSO10 | X         | X         | X         | X         |
| PSO11 | X         | X         | X         | X         |

### III. Programme Specific Outcomes (PSO) and Core Elective Courses (CEC)

|        | MCSLE 103a | MCSLE 103b | MCSLE 103c | MCSLE 103d | MCSLE 203a | MCSLE 203b | MCSLE 203c | MCSLE 203d |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|
| PSO1   | X          | X          | X          | X          | X          | X          | X          | X          |
| PSO2   | X          | X          | X          | X          | X          | X          | X          | X          |
| PSO3   | X          |            | X          |            | X          |            | X          |            |
| PSO4   | X          | X          | X          | X          | X          | X          | X          | X          |
| PSO5   | X          | X          | X          | X          | X          | X          | X          | X          |
| PSO6   |            | X          |            | X          |            | X          |            | X          |
| PSO7   | X          | X          | X          | X          | X          | X          | X          | X          |
| PSO8   | X          |            | X          |            | X          |            | X          |            |
| PSO9   | X          | X          | X          | X          | X          | X          | X          | X          |
| PSO 10 | X          | X          | X          | X          | X          | X          | X          | X          |
| PSO 11 | X          | X          | X          | X          | X          | X          | X          | X          |

### IV. Programme Specific Outcomes (PSO) and Open Elective Courses (OEC)

|  | MCSLE 105a | MCSLE 105b | MCSLE 205a | MCSLE 205b |
|--|------------|------------|------------|------------|
|  |            |            |            |            |

## M.Sc.(Computer Science) Lateral Entry

|       |   |   |   |   |
|-------|---|---|---|---|
| PSO1  | X | X | X | X |
| PSO2  | X | X | X | X |
| PSO3  | X |   | X |   |
| PSO4  | X | X | X | X |
| PSO5  | X | X | X | X |
| PSO6  |   | X |   | X |
| PSO7  | X | X | X | X |
| PSO8  | X |   | X |   |
| PSO9  | X | X | X | X |
| PSO10 | X | X | X | X |
| PSO11 | X | X | X | X |

### Objectives, Course-level Learning Outcomes, Contents, and Suggested Readings Semester I

**Paper Code:**FS-COMP-MCSLE-CC-101

**Paper Name:** Data Structures

#### Course Objectives:

- CO1. To Create and initialize variables, constants, arrays, pointers, structures, and unions.
- CO2. To Manipulate values of variables, arrays, pointers, structures, unions, and files.
- CO3. To Create a function that can receive variables, arrays, pointers, and structures.
- CO4. To define functions that can receive variables, arrays, pointers, and structures.
- CO5. To create open, read, manipulate, write and close files.
- CO6. To select and use appropriate data structures for the given problems.
- CO7. To design efficient algorithms using various algorithm designing strategies
- CO8. To analyze the problem and develop the algorithms related to these problems
- CO9. To classify the problem and apply the appropriate design strategy to develop an algorithm
- CO10. To design algorithm in the context of space and time complexity and apply the asymptotic notation
- CO11. To be able to analyze algorithms and algorithm correctness.
- CO12. To be able to summarize searching and sorting techniques
- CO13. To be able to describe stack, queue, and linked list operations.
- CO14. To be able to know. tree and graphs concepts

#### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Create and initialize variables, constants, arrays, pointers, structures, and unions.
- LO2. Manipulate values of variables, arrays, pointers, structures, unions, and files.
- LO3. Create a function that can receive variables, arrays, pointers, and structures.
- LO4. Define functions that can receive variables, arrays, pointers, and structures.
- LO5. Create open, read, manipulate, write and close files.
- LO6. Select and use appropriate data structures for the given problems.
- LO7. Design efficient algorithms using various algorithm designing strategies
- LO8. Analyze the problem and develop the algorithms related to these problems
- LO9. Classify the problem and apply the appropriate design strategy to develop an algorithm
- LO10. Design algorithm in the context of space and time complexity and apply the asymptotic notation
- LO11. Ability to analyze algorithms and algorithm correctness.
- LO12. Ability to summarize searching and sorting techniques
- LO13. Ability to describe stack, queue, and linked list operations.
- LO14. Ability to know. tree and graphs concepts

# M.Sc.(Computer Science) Lateral Entry

## Unit I

**Algorithm:** Efficiency & Analysis Algorithm: Time and Space complexity of Algorithm.

**Abstract Data Type: Linked List-** Linear, Circular, Two Way List, Basic Operation on Linked Lists, Application of Linked List.

## Unit II

**Stack:** primitive operations, stack Application- Infix, postfix, prefix and Recursion Array, and Linked Representation of Stack. **Queue:** Primitive operation, Circular Queue, Priority Queue, D-queue, Array, and Linked Representation of Queue.

## Unit III

**Trees:** Basic terminology, **Binary Tree:** Representation as Array and link List, Basic operation, **Tree Traversal:** Inorder, Preorder, Postorder, Application of Binary Tree. B-tree, Height Balance Tree (AVL Tree) **Graph:** Basic Terminology, Directed, Undirected, Weighted, Representation of Graphs, **Graph Traversal:** Depth First Traversal, Breadth-First Search.

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### Recommended Readings

1. Expert Data Structure with 'C' By R.B Patel (Khana Book Publishing Co.(P))
2. Data structure By Lipschutz (Tata McGraw Hill)

### Suggested Readings

3. Data Structure By Yashvant Kanitkar (BPB)
4. An Introduction to Data Structures with Applications By Jean-Paul Tremblay, Paul G.Sarerson (Tata McGraw Hill)
5. Data Structure Using C and C++ By Yedidyah Langsam, Moshe J.Augenstein, Arora M. Tenenbaum (Prentice- Hall India)

**Paper Code:**FS-COMP-MCSLE-CC-102

**Paper Name:** Java

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### Course Objectives:

CO1. To use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.

CO2. To read and make elementary modifications to Java programs that solve real-world problems.

CO3. To validate input in a Java program.

CO4. To identify and fix defects and common security issues in code.

CO5. To document a Java program using Javadoc.

CO6. To use a version control system to track source code in a project.

### Learning Outcomes:

After completing this course, students will be able to:

LO1. Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.

LO2. Read and make elementary modifications to Java programs that solve real-world problems.

LO3. Validate input in a Java program.

LO4. Identify and fix defects and common security issues in code.

LO5. Document a Java program using Javadoc.

LO6. Use a version control system to track source code in a project.

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## Unit I

**Introduction to Java:** evolution, features, comparison with C and C++; Java program structure; tokens, keywords, constants, variables, data types, typecasting, statements, Operators and Expression; Conditional Statements and Loop Statements. **Class:** syntax, instance variable, class variables, methods, constructors, overloading.

# M.Sc.(Computer Science) Lateral Entry

## Unit II

**Inheritance:** types of inheritance, use of super, method overriding, final class, abstract class, wrapper classes.

Arrays, Strings and Vectors, Packages and Interfaces, visibility controls

## Unit III

**Errors and Exceptions:** Types of errors, Exception classes, Exception handling in java, use of try, catch, finally, throw and throws. Taking user input, Command line arguments.

**Multithreaded Programming:** Creating Threads, the Life cycle of thread, Thread priority, Thread synchronization, Inter-thread communication, Implementing the Runnable Interface.

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### Recommended Readings

1. The Complete reference Java Ninth Edition By Herbert Schildt (Tata McGraw Hill)
2. Beginning Programming with Java For Dummies by Burd, For Dummies; 3 edition

### Suggested Readings

3. Java: A Beginner's Guide, Sixth Edition: A Beginner's Guide by Herbert Schildt, McGraw-Hill Osborne Media Programming in JAVA By E. Balagurusamy (TMH)
4. JAVA 2 programming Black Book By Steven Holzner et al. (Dreamtech Press)
5. Programming in JAVA By E. Balagurusamy (TMH)

**Paper Code:**FS-COMP-MCSLE-CC-103a

**Paper Name:** Software Engineering & Research Methodology

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### Course Objectives:

- CO1. To learn the phases of software development
- CO2. To develop process models and process systems multiple collections, models
- CO3. To gather, understand, analyze and specify requirements
- CO4. To develop architectural diagram, and implement by following coding principles
- CO5. To apply testing strategies and handle software product maintenance issues
- CO6. To get a good knowledge of the issues and challenges faced while doing the Software project Management.
- CO7. To understand why the majority of the software projects fail and how that failure probability can be reduced effectively.
- CO8. To do the Project Scheduling, tracking, Risk analysis, Quality management, and Project Cost estimation using different techniques.
- CO9. To identify and discuss the role and importance of research in the social sciences.
- CO10. To identify and discuss the issues and concepts salient to the research process.
- CO11. To identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project.
- CO12. To identify and discuss the concepts and procedures of sampling, data collection, analysis, and reporting.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Learn the phases of software development
- LO2. Develop process models and process systems multiple collections, models
- LO3. Gather, understand, analyze and specify requirements
- LO4. Develop architectural diagram, and implement by following coding principles
- LO5. Apply testing strategies and handle software product maintenance issues
- LO6. Get a good knowledge of the issues and challenges faced while doing the Software project Management.
- LO7. To understand why the majority of the software projects fail and how that failure probability can be reduced effectively.

# M.Sc.(Computer Science) Lateral Entry

- LO8. To do the Project Scheduling, tracking, Risk analysis, Quality management, and Project Cost estimation using different techniques.
- LO9. Identify and discuss the role and importance of research in the social sciences.
- LO10. Identify and discuss the issues and concepts salient to the research process.
- LO11. Identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project.
- LO12. identify and discuss the concepts and procedures of sampling, data collection, analysis, and reporting.

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## Unit I

**Software:** Software Characteristics, Software Process, Process Characteristics, **Software Process Model:** Linear Sequential Model, Prototyping Model, Spiral Model, Software Quality, McCall's Quality Factors, **Software Requirement Analysis and Specification (SRS):** Need Characteristics and Components.

## Unit II

**Planning a Software Project:** COCOMO Model, Project Monitoring Plan, and Risk Management. **Design Principle:** Abstraction, Modularity, Cohesion and Coupling, **Software Management:** Size Oriented Metrics, Function Oriented Metrics. **Testing:** Testing Fundamental, Functional Testing (Black Box), Structural Testing (White Box), Alpha And Beta Testing, **Testing Process:** Comparison of Different Testing, Level of Testing.

## Unit III

Research Methodology: Meaning of Research, Objective of Research, Types of Research, Research Approaches, Significance of research, Research Methods versus Methodology, Research Process, Criteria of Good Research, What is Research Problem, Selecting the problem, Necessity of defining the problem, Technique involved in defining a problem.

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## Recommended Readings

1. Software Engineering: A Practitioner's Approach By Roger S. Pressman, McGraw Hill.

## Suggested Readings

2. Software Engineering: A Precise Approach by Pankaj Jalote, Wiley Precise textbook Series
3. Research Methodology Methods and Techniques by C. R. Kothari, New Age International Publisher

**Paper Code:**FS-COMP-MCSLE-CC-103b

**Paper Name:** Artificial Intelligence

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## Course Objectives:

CO1. To analyze and formalize the problem as a state space, graph, design heuristics

CO2. To have the ability to represent solutions for various real-life problem domains using logic-based techniques

CO3. To understand the numerous applications and huge possibilities in the field of AI

CO4. To ability to express ideas in AI research and programming language related to emerging technology.

## Learning Outcomes:

After completing this course, students will be able to:

LO1. To analyze and formalize the problem as a state space, graph, design heuristics

LO2. Ability to represent solutions for various real-life problem domains using logic-based techniques

LO3. Understand the numerous applications and huge possibilities in the field of AI

LO4. Ability to express ideas in AI research and programming language related to emerging technology.

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## Unit I

# M.Sc.(Computer Science) Lateral Entry

Definition, History, Agents, and environment, Defining the problem as a state and space search, What is Intelligence? Types of Intelligence, Difference between Human and Machine Intelligence, The Structure of Intelligent Agents. Solving problems by searching: Uninformed search strategies- Brute-Force, Breadth-First, Uniform-cost search Depth-First, Depth-limited search,depth-first search, Bidirectional search. Informed (heuristic) search strategies- Greedy best-first search, A\*, AO\* Memory-bounded heuristic search.

## Unit II

Heuristic functions, local search algorithms- Hill-climbing search, Simulated annealing, Local beam search. Knowledge-Based System: Knowledge, Procedure V/S Declarative Knowledge, Knowledge Representation: Using Procedural and Predicate Logic, Inference in First-order logic: Unification and Lifting, Forward Chaining, Backward Chaining, Resolution. Rule-based System, Frames, Frames, Scripts, and Semantic Nets.

## Unit III

Probabilistic Reasoning, Probability, and Bayes Theorem represent knowledge in the uncertain domain, Certainty factors, Bayesian Networks, Dempster–Shafer theory, introduction to Fuzzy logic. Learning: types of learning, decision trees. **Expert System: types, architecture. Introduction to Artificial Neural Networks, Reinforcement Learning, Natural Language Processing, Pattern Recognition, and Perception.**

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### Recommended Readings

1. Artificial Intelligence By Rich And Knight (Tata McGraw Hill)

### Suggested Readings

2. Introduction to Artificial Intelligence and Expert Systems By Patterson (Prentice-Hall India)
3. Artificial Intelligence A Modern Approach by Russell and Norvig, Prentice Hall

Paper Code:FS-COMP-MCSLE-CC-103c

### Paper Name: Python

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#### Course Objectives:

- CO1. Apply language features including strings, lists, tuples, dictionaries, regular expressions.
- CO2. Create and call functions.
- CO3. Create and manipulate files.
- CO4. Develop classes using OO features.
- CO5. Develop internet applications using packages such as urllib.
- CO6. To understand why Python is a proper scripting language for developers.
- CO7. To learn how to design and program Python applications.
- CO8. To learn how to use lists, tuples, and dictionaries in Python programs.
- CO9. To learn how to identify Python object types.
- CO10.To learn how to use indexing and slicing to access data in Python programs.
- CO11. To define the structure and components of a Python program.
- CO12. To learn how to write loops and decision statements in Python.
- CO13. To learn how to write functions and pass arguments in Python.
- CO14. To learn how to build and package Python modules for reusability.
- CO15. To learn how to read and write files in Python.
- CO16. To learn how to design object-oriented programs with Python classes.
- CO17. To learn how to use class inheritance in Python for reusability.
- CO18. To learn how to use exception handling in Python applications for error handling.

#### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Apply language features including strings, lists, tuples, dictionaries, regular expressions. LO2. Create and call functions.

# M.Sc.(Computer Science) Lateral Entry

- LO3. Create and manipulate files.
  - LO4. Develop classes using OO features.
  - LO5. Develop internet applications using packages such as urllib.
  - LO6. To understand why Python is a proper scripting language for developers.
  - LO7. To learn how to design and program Python applications.
  - LO8. To learn how to use lists, tuples, and dictionaries in Python programs.
  - LO9. To learn how to identify Python object types.
  - LO10. To learn how to use indexing and slicing to access data in Python programs.
  - LO11. To define the structure and components of a Python program.
  - LO12. To learn how to write loops and decision statements in Python.
  - LO13. To learn how to write functions and pass arguments in Python.
  - LO14. To learn how to build and package Python modules for reusability.
  - LO15. To learn how to read and write files in Python.
  - LO16. To learn how to design object-oriented programs with Python classes.
  - LO17. To learn how to use class inheritance in Python for reusability.
  - LO18. To learn how to use exception handling in Python applications for error handling.
- 

## Unit I

Basics: Python Interpreter, writing code in Jupyter Notebook, Indentation, comments, importing a module, binary operators, standard scalar data types, typecasting, if-else statements, loops(while, for), pass, range, ternary expressions. Data Structures and Sequences: Tuples, Lists, and slicing, Built-in Sequence functions, Dictionary, Sets; List, Set, and Dict Comprehensions.

## Unit II

Functions: Namespaces, Scope, and Local Functions; Returning Multiple Values, Anonymous (Lambda) Functions, Partial Argument Application, Generators, Errors, and Exception handling. Basic File Handling. Objects and Methods in Python. NumPy: creating N-dimensional arrays, arithmetic with NumPy arrays, basic indexing, and slicing, Psuedorandom number generation.

## Unit III

Pandas: Overview of Series and DataFrames, reading data from csv file, DataFrame operations-working with data using functions like head, tail, info, shape, reshape, columns, isnull, dropna, mean, sum, describe, value\_counts, corr, loc, iloc, apply. Matplotlib- plotting basic figures, subplots, line plots, bar plots, histograms, scatter plots. Overview of Scikit-learn, SciPy, networkx. Applications of python.

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## Recommended Readings

1. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and Ipython, by Wes McKinney, O'Reilly Media, 2017 Python All-in-One for Dummies, by John Shovic and Alan Simpson, John Wiley & Sons, Inc., 2019

## Suggested Readings

2. Programming in Python 3: A Complete Introduction to the Python Language, Mark Summerfield, Pearson.
3. Swaroop, C. H. (2003). A Byte of Python. Python Tutorial.

# M.Sc.(Computer Science) Lateral Entry

4. Introduction to Computation and Programming Using Python. By John V. Guttag, MIT Press.
5. Learning Python, Mark Lutz, David Ascher, O'Reilly
6. T. Budd, Exploring Python, TMH, 1st Ed, 2011

## Web Resources

1. <https://www.learnpython.org/>
2. <https://nptel.ac.in/courses/106/106/106106212/>
3. <http://greenteapress.com/thinkpython/thinkpython.pdf>
4. Python tutorial: <https://docs.python.org/3/tutorial/index.html>
7. Python All-in-One for Dummies, by John Shovic and Alan Simpson, John Wiley & Sons, Inc., 2019

**Paper Code:**FS-COMP-MCSLE-CC-103d

**Paper Name: Theory of Computation**

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### Course Objectives:

- CO1. able to design Finite Automata machines for given problems;
- CO2. able to analyze a given Finite Automata machine and find out its Language;
- CO3. able to create Pushdown Automata machine for given CF language(s);
- CO4. able to generate the strings/sentences of given context-free languages using its grammar;
- CO5. Able to design Turing machines for given Apply to identify Interpretational problem.

### Learning Outcomes:

After completing this course, students will be able to identify.:

- LO1. able to design Finite Automata machines for given problems;
  - LO2. able to analyze a given Finite Automata machine and find out its Language;
  - LO3. able to create Pushdown Automata machine for given CF language(s);
  - LO4. able to generate the strings/sentences of given context-free languages using its grammar;
  - LO5. Able to design Turing machines for given Apply to identify Interpretational problem.
- 

## Unit I

Languages: Alphabets, string, language, Basic Operations on language, Concatenation, Kleene Star. Finite Automata and Regular Languages: Regular Expressions, Transition Graphs, Deterministic and non-deterministic finite automata, NFA to DFA Conversion, Regular languages and their relationship with finite automata, Pumping lemma, and closure properties of regular languages.

## Unit II

Context-free languages: Context-free grammars, parse trees, ambiguities in grammars and languages, Pushdown automata (Deterministic and Non-deterministic), Pumping Lemma, Properties of context-free languages, normal forms.

## Unit III

Turing Machines and Models of Computations: RAM, Turing Machine as a model of computation, Universal Turing Machine, Language acceptability, decidability, halting problem, Recursively enumerable and recursive languages, unsolvability problems.

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### Recommended Readings

1. Daniel I.A.Cohen, Introduction to computer theory – John Wiley (1996 2nd Edition).

# M.Sc.(Computer Science) Lateral Entry

2. Lewis & Papadimitriou, Elements of the theory of computation – II Edition PHI 1997.

## Suggested Readings

1. Hopcroft, Aho, Ullman, Introduction to Automata theory, Language & Computation –3rd Edition 2006, Pearson Education.
2. P. Linz, An Introduction to Formal Language and Automata 4th edition Publication Jones Bartlett 2006

**Paper Code:**FS-COMP-MCSLE-CC-105a

**Paper Name: Data Analysis Using R**

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## Course Objectives:

- CO1. To use Jupyter Notebook for interactive computation
- CO2. To practice Python features such as lists, dictionaries, and files for the given problem
- CO3. To use NumPy functions for array processing
- CO4. To apply Pandas Dataframe for data wrangling
- CO5. To generate graphs for the given data using Matplotlib
- CO6. To understand the basics of R programming in terms of constructs, control statements, string Functions.
- CO7. To understand the use of R for Data analytics.
- CO8. To conduct your independent data analysis.
- CO9. To be able to appreciate and apply the R programming from a statistical perspective.

## Learning Outcomes:

After completing this course, students will be able to:

- LO1. Use Jupyter Notebook for interactive computation
  - LO2. Practice Python features such as lists, dictionaries, and files for the given problem
  - LO3. Use NumPy functions for array processing
  - LO4. Apply Pandas Dataframe for data wrangling
  - LO5. Generate graphs for the given data using Matplotlib
  - LO6. Understand the basics of R programming in terms of constructs, control statements, string Functions.
  - LO7. Understand the use of R for Data analytics.
  - LO8. Conduct your independent data analysis.
  - LO9. Able to appreciate and apply the R programming from a statistical perspective.
- 

## Unit I

Foundations for data analysis-matrices, the notion of probability, the concept of random variables and various distributions, mean, variance, covariance, normal distributions, an overview of sampling, hypothesis testing, confidence interval, the concept of optimization.

## Unit II

installation of R, data editing, use of R as a calculator; functions, and assignments. matrix operations, logical operators, Conditional executions and loops, data management with sequences, repeats, sorting and ordering, lists, vector indexing, factors; display and formatting of strings.

## Unit III

Working with data frames, Importing data files; Graphics and plots; basic statistical functions for central tendency, variation, box plots, skewness and kurtosis, correlations; overview of using R functions for simple hypothesis testing, Applications of R.

## Recommended Readings

1. Hands-On Programming with R, Garrett Golemund, O'Reilly Publishers.
2. R for Beginner - [https://cran.r-project.org/doc/contrib/Paradis-rdebuts\\_en.pdf](https://cran.r-project.org/doc/contrib/Paradis-rdebuts_en.pdf)

## Suggested Readings

# M.Sc.(Computer Science) Lateral Entry

3. A Learning Guide to R -

[https://www.westernsydney.edu.au/data/assets/pdf\\_file/0011/830909/Rnotes\\_20180905\\_web.pdf](https://www.westernsydney.edu.au/data/assets/pdf_file/0011/830909/Rnotes_20180905_web.pdf)

4. Applied Statistics And Probability For Engineers – by Douglas Montgomery, John Wiley & Sons Inc.

5. Research Methodology: Methods And Techniques, C.R. Kothari, New Age International Publishers.

6. Design and Analysis of Experiments (Wiley India), Montgomery, Douglas C.

**Paper Code:**FS-COMP-MCSLE-CC-105b

**Paper Name :** LaTeX: a document preparation system

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## Course Objectives:

CO1. To apply various Excel tools and add-ins for analyzing Business problems.

CO2. To compare mathematical formulas with Spreadsheet formulas

CO3. To explore, query, and summarize business data.

CO4. To apply descriptive statistical measures for business decisions.

CO5. To perform progression analysis and forecasting techniques.

CO6. To understand how to write documents containing mathematical formulas.

CO7. To understand how to write articles in different journal styles.

CO8. To understand how to create PPT in a more presentable manner.

CO9. To understand how to create using built-in templates.

## Learning Outcomes:

After completing this course, students will be able to:

LO1. Apply various Excel tools and add-ins for analyzing Business problems.

LO2. Compare mathematical formulas with Spreadsheet formulas

LO3. Explore, query, and summarize business data.

LO4. Apply descriptive statistical measures for business decisions.

LO5. Perform progression analysis and forecasting techniques.

LO6. Understand how to write documents containing mathematical formulas.

LO7. Understand how to write articles in different journal styles.

LO8. Understand how to create PPT in a more presentable manner.

LO9. Understand how to create using built-in templates.

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## Unit I

Installation of the software LaTeX, Structure of LaTeX documents; Special Characters, Producing equations, Matrices, Tables, itemised lists, hypertext links; Page Layout –Title, Abstract, Chapters, Sections, References.

## Unit II

Including graphics, images, floating bodies; Producing basic mathematical graphics like line segments, arrows, circles, ovals, Generating index and bibliography, creating PDF files.

## Unit III

Adding a new command; generating spaces, colored text; Writing a sample resume, question paper, article/ research paper; Creating a presentation using beamer.  
of part A, B and C are 50, 200 and 500 respectively

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## Recommended Readings

1. LaTeX: A Document Preparation System, By Leslie Lamport, Addison- Wesley.

## Suggested Readings

2. LaTeX Beginner's Guide, by Stefan Kottwitz, Packt Publishing Limited

# M.Sc.(Computer Science) Lateral Entry

3. Tobias Oetiker, Hubert Partl, Irene Hyna, and Elisabeth Schegle: The Not So Short Introduction to LaTeX 2e, <https://tobi.oetiker.ch/lshort/lshort-a5book.pdf>, 2014.

## Semester IV

**Paper Code:**FS-COMP-MCSLE-CC-201

**Paper Name:** Computer Graphics & Multimedia

### Course Objectives:

- CO1. To develop line and circle generation algorithms
- CO2. To apply 2D and 3D transformations
- CO3. To develop clipping algorithms for point, line, and polygons
- CO4. To learn the concepts of projections, viewing, and graphics pipeline
- CO5. To create a simple animation and interaction for multimedia presentation
- CO6. To understand image types and color models
- CO7. To describe the concepts regarding the digitization of audio signals
- CO8. To compress images, videos, and audios using data compression methods
- CO9. To encode videos and audios using MPEG
- CO10. To ExplainfunctionalIdentify the core concepts of computer graphics, including viewing, projection, perspective, modeling, and transformation in two and three dimensions.
- CO11. To apply the concepts of color models, lighting and shading models, textures, ray tracing, hidden surface elimination, anti-aliasing, and rendering.
- CO12. To interpret the mathematical foundation of the concepts of computer graphics.
- CO13. To describe the fundamentals of animation, parametric curves, and surfaces, and spotlighting.
- CO14. To identify a typical graphics pipeline and apply graphics programming techniques to design and create computer graphics.
- CO15. To create effective OpenGL programs to solve graphics programming issues, including 3D transformation, object modeling, color modeling, lighting, textures, and ray tracing.
- CO16. To understand multimedia concerning any applications, including business, schools, home, education, and virtual reality.
- CO17. To understand the hardware and software needed to create projects using creativity and organization to create them.
- CO18. To develop multimedia skills to be the principal player of individual multimedia teams in developing projects.
- CO19. To work with all aspects of images.
- CO20. To work with all aspects of sound.
- CO21. To work with all aspects of the video.
- CO22. To learn copyright laws associated with multimedia.
- CO23. To learn the cost involved in multimedia planning, designing, and producing.
- CO24. To learn ways to present their multimedia projects.

### Learning Outcomes:

After completing this course, students will be able to:

- LO1. Develop line and circle generation algorithms
- LO2. Apply 2D and 3D transformations
- LO3. Develop clipping algorithms for point, line, and polygons
- LO4. Learn the concepts of projections, viewing, and graphics pipeline
- LO5. Create a simple animation and interaction for multimedia presentation
- LO6. Understand image types and color models
- LO7. Describe the concepts regarding the digitization of audio signals
- LO8. Compress images, videos, and audios using data compression methods
- LO9. Encode videos and audios using MPEG
- LO10. ExplainfunctionalIdentify the core concepts of computer graphics, including viewing, projection, perspective, modeling, and transformation in two and three dimensions.
- LO11. apply the concepts of color models, lighting and shading models, textures, ray tracing, hidden surface elimination, anti-aliasing, and rendering.

# M.Sc.(Computer Science) Lateral Entry

- LO12. interpret the mathematical foundation of the concepts of computer graphics.
- LO13. Describe the fundamentals of animation, parametric curves, and surfaces, and spotlighting.
- LO14. Identify a typical graphics pipeline and apply graphics programming techniques to design and create computer graphics.
- LO15. Create effective OpenGL programs to solve graphics programming issues, including 3D transformation, object modeling, color modeling, lighting, textures, and ray tracing.
- LO16. Students will understand multimedia concerning any applications, including business, schools, home, education, and virtual reality.
- LO17. Students will understand the hardware and software needed to create projects using creativity and organization to create them.
- LO18. The student will develop multimedia skills to be the principal player of individual multimedia teams in developing projects.
- LO19. Students will work with all aspects of images.
- LO20. Students will work with all aspects of sound.
- LO21. Students will work with all aspects of the video.
- LO22. Students will learn copyright laws associated with multimedia.
- LO23. Students will learn the cost involved in multimedia planning, designing, and producing.
- LO24. Students will learn ways to present their multimedia projects.

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## Unit I

Basic elements of Computer Graphics, Graphics display devices, Applications of Computer Graphics, Raster and random scan; Color Models: RGB, CMY, HSV; Graphics Standard: OpenGL; Scan Conversion: DDA line algorithm, Midpoint circle Algorithm. 2D Transformation: Translation, Rotation, Scaling, Homogeneous Coordinates and Matrix Representation of 2D Transformation, Composite Transformation.

## Unit II

3D Graphics: Matrix Representation of 3D transformations, Translation, Rotation, Scaling, Composite Transformation. Overview of concepts: Clipping, orthographic and parallel projection, hidden surface removal, lighting, transparency, modeling and texturing, rendering; Animations: Principles of animations, keyframing, the concept of 2D and 3D animation.

## Unit III

Blender: GUI Interface, Selecting, rotating, and Translating Objects, Using Snap to move objects precisely, Creating mesh primitives and extrusions, Subdividing meshes, Creating a simple creature, Joining mesh objects and stitching vertices, Organizing a scene with layers, groups, and hierarchies, Assigning glossy and reflective materials to objects, Creating bump maps, Creating sky and ambient light, Understanding ambient occlusion, Adding motion blur and depth of field, Editing animation in the Graph Editor, Building and animating a simple character.

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## Recommended Readings

1. Computer Graphics (Principles and Practice) by Foley, van Dam, Feiner, and Hughes, Addison Wesley (Indian Edition)
2. Computer Graphics by D Hearn and PM Baker, Prentice Hall of India (Indian Edition).

## Suggested Readings

3. Mathematical Elements for Computer Graphics by DF Roger.
4. Introduction to Computer Graphics By Krishnamurthy N (Tata McGraw Hill)
5. Theory and Problems of Computer Graphics (Schaum's Outline) By Zhigang X. and Plastock Ra. (Tata McGraw Hill)

## Web Resources

1. <https://www.cs.duke.edu/brd/Teaching/Previous/Animation/animation.html>

# M.Sc.(Computer Science) Lateral Entry

2. [http://zikky.lecturer.pens.ac.id/Produksi 3D untuk Designer/Beginning Blender-book.pdf](http://zikky.lecturer.pens.ac.id/Produksi%203D%20untuk%20Designer/Beginning%20Blender-book.pdf)
3. <http://www.blenderhd.com/wp-content/uploads/2015/08/BeginnersGuideToBlender.pdf>
4. [https://people.sc.fsu.edu/~gerlebacher/gd/blender/blender/blender\\_noob\\_to\\_pro.pdf](https://people.sc.fsu.edu/~gerlebacher/gd/blender/blender/blender_noob_to_pro.pdf)
5. [http://download.blender.org/documentation/pdf/John M Blain - An Introduction To Blender 3D - A Book For Beginners \(2011\).pdf](http://download.blender.org/documentation/pdf/John%20M%20Blain%20-%20An%20Introduction%20To%20Blender%203D%20-%20A%20Book%20For%20Beginners%20(2011).pdf)
6. [http://www.cdschools.org/cms/lib04/PA09000075/Centricity/Domain/81/BlenderBasics\\_4thEdition2011.pdf](http://www.cdschools.org/cms/lib04/PA09000075/Centricity/Domain/81/BlenderBasics_4thEdition2011.pdf)
7. <https://docs.blender.org/manual/en/dev/index.html>

Paper Code:FS-COMP-MCSLE-CC-201

## **Paper Name: Android Programming**

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### **Course Objectives:**

- CO1. To create an android project from XML Layout.
- CO2. To debug Android apps and create UI fragments
- CO3. To pass data between fragments
- CO4. To design apps with audio playback.
- CO5. To create a database and communicate with mobile apps
- CO6. To install and configure Android application development tools
- CO7. To design and develop user interfaces for the Android platform.
- CO8. To save state information across important operating system events.
- CO9. To apply Java programming concepts to Android application development.
- CO10. To develop the ability to develop Android Application

### **Learning Outcomes:**

After completing this course, students will be able to:

- LO1. Create an android project from XML Layout.
- LO2. Debug Android apps and create UI fragments
- LO3. Pass data between fragments
- LO4. Design apps with audio playback.
- LO5. Create database and communicate with mobile apps
- LO6. Install and configure Android application development tools.
- LO7. Design and develop user interfaces for the Android platform.
- LO8. Save state information across important operating system events.
- LO9. Apply Java programming concepts to Android application development.
- LO10. Develop the ability to develop Android Application

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### **Unit -I**

Introduction: What is Android?, Android Architecture, Setting Android Environment, Android SDK Manager & required Packages, Using Android Studio, Android Virtual Device(AVD), Creating First Android Application, Package Structure, Introduction to Gradle, Running the Application, Views, Layouts and more.

### **Unit - II**

Introduction to Views: TextView, EditText View, RadioButton and CheckBox View, Button View, ImageView and ImageButton View, Toast, Notifications.

Introduction to Layouts/ViewGroups: Linear Layout, Relative Layout, Tabular Layout, Hierarchical Layout Arrangements, Adapter, and Adapter View, Using ListView and GridView, SQLite Database.

### **Unit - III**

Spinner in Android, Working with Spinners, Margin, and Padding, Working with EditText and TextView, RadioGroup, RadioButton and CheckBox, AutoCompleteTextView in Android, Android Core, and Projects.

Location-Based Services: Sending Email, Sending SMS, Phone Calls

Activity in Android, Intents in Android, Introduction to Fragments, Working with Fragments

# M.Sc.(Computer Science) Lateral Entry

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## Recommended Readings

Android Programming for Beginners by John Horton Publisher: Packt Publishing  
Learn Java for Android Development (2nd edition) by Jeff Friesen Publisher: Apress

## Suggested Readings

Android application development for java programmers. By James C. Sheusi. Publisher: Cengage Learning, 2013.

Beginning Android Programming with Android Studio, Fourth Edition by Jerome F. DiMarzio  
Publisher: John Wiley & Sons

Android Programming: The Big Nerd Ranch Guide by Kristin Marsicano, Chris Stewart, Bill Phillips  
Publisher: Big Nerd Ranch Guides

Paper Code:FS-COMP-MCSLE-CC-203a

**Paper Name : Cloud Computing**

**Objective** – After completing this course the student will have an understanding of key aspects of cloud computing

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## Unit I

Introduction to Cloud Computing, Services provided by cloud-SaaS, PaaS, IaaS, DaaS etc. Functioning of cloud computing, Advantages, Disadvantages, Applications, Cloud Service Providers- Amazon AWS, Google App Engine, Microsoft, VMware. Virtualization concepts, Objectives, Types of Virtualization & its benefits, Introduction to Various Virtualization OS (Hypervisor). Virtualization for Enterprises

## Unit II

Designing and Implementing a Data Center-Based Cloud, Industry and International Standards for Cloud Implementation, Building private cloud using open source tools, Integration of Public and Private Cloud. Private, Public & Hybrid Clouds, their Advantages & Disadvantages, On-Premises, and Off-Premises Cloud services, installing a Cloud service.

## Unit III

Cloud Security issues - Infrastructure Security, Network level security, Host level security, Application-level security, Data privacy and security Issues, Jurisdictional issues raised by Data location, Access Control, Trust, Reputation, Risk and Authentication in cloud computing

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## Recommended Readings

1. Cloud Computing Concepts Technology and Architecture by Thomas Erl, Prentice Hall
2. Cloud Computing Principles and paradigms by Rajkumar Buyya, James Broberg and Andrzej Goscinski, John Wiley and Sons, Inc. Publication
3. Cloud Computing Theory and Practice by Dan C. Marinescu, Morgan Kaufman Publication

Paper Code:FS-COMP-MCSLE-CC-203b

**Paper Name: Internet of Things**

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## Course Objectives:

- CO1. To understand the definition and significance of the Internet of Things
- CO2. To discuss the architecture, operation, and business benefits of an IoT solution
- CO3. To examine the potential business opportunities that IoT can uncover
- CO4. To explore the relationship between IoT, cloud computing, and big data
- CO5. To identify how IoT differs from traditional data collection systems
- CO6. To understand the definition and significance of the Internet of Things
- CO7. To discuss the architecture, operation, and business benefits of an IoT solution
- CO8. To examine the potential business opportunities that IoT can uncover
- CO9. To explore the relationship between IoT, cloud computing, and big data

# M.Sc.(Computer Science) Lateral Entry

CO10. To identify how IoT differs from traditional data collection systems.

## **Learning Outcomes:**

After completing this course, students will be able to:

- LO1. Understand the definition and significance of the Internet of Things
- LO2. Discuss the architecture, operation, and business benefits of an IoT solution
- LO3. Examine the potential business opportunities that IoT can uncover
- LO4. Explore the relationship between IoT, cloud computing, and big data
- LO5. Identify how IoT differs from traditional data collection systems
- LO6. Understand the definition and significance of the Internet of Things
- LO7. Discuss the architecture, operation, and business benefits of an IoT solution
- LO8. Examine the potential business opportunities that IoT can uncover
- LO9. Explore the relationship between IoT, cloud computing, and big data
- LO10. Identify how IoT differs from traditional data collection systems.

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## **Unit I**

M2M to IoT: Introduction, Market Perspective, Architectural Overview. M2M to IoT Technology- Devices and gateways, Local and wide area networking, Data management, Business processes in IoT, IoT analytics, Knowledge management, IOT Architecture, Architecture Reference Model, Real-world design constraints.

## **Unit II**

IoT Use Cases- Asset Management, **Industrial Automation-** Service-oriented architecture-based device integration, SOCRADES: realizing the enterprise integrated Web of Things, IMC-AESOP: from the Web of Things to the Cloud of Things, **Commercial Building Automation-** Introduction, Case study: phase one-commercial building automation today, Case study: phase two- commercial building automation in the future.

## **Unit III**

Internet of Things Privacy, Security and Governance Introduction, Overview of Governance, Privacy and Security Issues, Contribution from FP7 Projects, Security, IoT and Smart Cities, Privacy and Trust in IoT-Data-Platforms for Smart Cities, First Steps Towards a Secure Platform, Smartie Approach. Data Aggregation for the IoT in Smart Cities, Security

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## **Recommended Readings**

From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence by Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, 1st Edition, Academic Press, 2014.

1. Internet of Things (A Hands-on-Approach) by Vijay Madisetti and Arshdeep Bahga, 1st Edition, VPT, 2014.
2. Rethinking the Internet of Things: A Scalable Approach to Connecting Everything by Francis daCosta, 1st Edition, Apress Publications, 2013

## **Suggested Readings**

3. Designing the Internet of Things, Adrian McEwen (Author), Hakim Cassimally
4. Internet of Things: Converging Technologies for Smart Environments and Integrated Ecosystems by Dr. Ovidiu Vermesan, Dr. Peter Friess, River Publishers
5. Internet of Things (A Hands-on-Approach), Vijay Madisetti, Arshdeep Bahga
6. Building the internet of things with ipv6 and mipv6, The Evolving World of M2M Communications, Daniel Minoli John Wiley & Sons

**Paper Code:**FS-COMP-MCSLE-CC-203c

# M.Sc.(Computer Science) Lateral Entry

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**Paper Name: Big Data & Data Mining**

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**Course Objectives:**

- CO1. To explain characteristics and use cases and applications of Big Data
- CO2. To develop MapReduce operation using Hadoop
- CO3. To be able to understand the role of Virtualization Technologies
- CO4. To design and implement systems for data mining.
- CO5. To evaluate the performance of different data-mining algorithms.
- CO6. To propose data-mining solutions for various applications.

**Learning Outcomes:**

After completing this course, students will be able to:

- LO1. Explain characteristics and use cases and applications of Big Data
- LO2. Develop MapReduce operation using Hadoop
- LO3. Ability to understand the role of Virtualization Technologies
- LO4. design and implement systems for data mining.
- LO5. Evaluate the performance of different data-mining algorithms.
- LO6. Propose data-mining solutions for various applications.

---

**Unit I**

Data mining Introduction: Definition, Data mining tasks, Data mining as a step of the Knowledge discovery process, Applications of Data mining; Data objects and types of attributes, Recalling mean, median, mode, and weighted arithmetic mean, Data quality, an overview of data preprocessing.

**Unit II**

Classification analysis- definition, Overview of various classification techniques; Decision tree induction- working, examples, specifying attribute test conditions, Measures of node impurity, measures for selecting best split; Evaluating the performance of a classifier- Holdout method, Random subsampling, cross-validation, Bootstrap.

**Unit III**

Association analysis: support, confidence, association rules, Frequent Itemsets; Frequent itemset generation - Apriori principle, Apriori algorithm, and examples, FP growth algorithm and examples; Closed and maximal frequent itemsets. Cluster analysis: Definition, an overview of basic clustering methods, Density-based methods-DBSCAN.

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**Recommended Readings**

1. Data Mining: Concepts and Techniques, 3rd edition, Jiawei Han and Micheline Kamber
2. Introduction to Data Mining, Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Pearson Education.

**Suggested Readings**

3. Data Mining: A Tutorial Based Primer, Richard Roiger, Michael Geatz, Pearson Education 2003.
4. Introduction to Data Mining with Case Studies, G.K. Gupta, PHI 2006
5. Insight into Data mining: Theory and Practice, Soman K. P., DiwakarShyam, Ajay V., PHI 2006
6. Data Mining:: Practical Machine Learning Tools and Techniques (Morgan Kaufmann Series in Data Management Systems) by Witten, Frank, Hall

**Paper Code:**FS-COMP-MCSLE-CC-203d

**Paper Name: Machine Learning**

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# M.Sc.(Computer Science) Lateral Entry

## Course Objectives:

- CO1. To be able to design Finite Automata machines for given problems;
- CO2. To be able to analyze a given Finite Automata machine and find out its Language;
- CO3. To be able to create Pushdown Automata machine for given CF language(s);
- CO4. To be able to generate the strings/sentences of given context-free languages using its grammar;
- CO5. To be able to design Turing machines for given Apply to identify Interpretational problem.

## Learning Outcomes:

After completing this course, students will be able to-

- LO1. Able to design Finite Automata machines for given problems;
  - LO2. Able to analyze a given Finite Automata machine and find out its Language;
  - LO3. Able to create Pushdown Automata machine for given CF language(s);
  - LO4. Able to generate the strings/sentences of given context-free languages using its grammar;
  - LO5. Able to design Turing machines for given Apply to identify Interpretational problem.
- 

## Unit I

Introduction: Concept of Machine Learning, Applications of Machine Learning, Key elements of Machine Learning, Supervised vs. Unsupervised Learning, Statistical Learning: Bayesian Method, The Naive Bayes Classifier. Tools for Machine Learning and Linear Algebra Overview: Plotting of Data, Vectorization, Matrices, and Vectors: Addition, Multiplication, Transpose and Inverse using available tools/libraries with Python.

## Unit II

Linear Regression: Prediction using Linear Regression, Gradient Descent, Linear Regression with one variable, Linear Regression with multiple variables, Polynomial Regression, Feature Scaling/Selection. Logistic Regression: Classification using Logistic Regression, Logistic Regression vs. Linear Regression, Logistic Regression with one variable and with multiple variables.

## Unit III

Regularization: Regularization and its utility: The problem of Overfitting, Application of Regularization in Linear and Logistic Regression, Regularization and Bias/Variance. Neural Networks: Introduction, Model Representation, Gradient Descent vs. Perceptron Training, Stochastic Gradient Descent, Multilayer Perceptrons, Multiclass Representation, Backpropagation Algorithm.

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## Recommended Readings

1. Tom M. Mitchell, "Machine Learning", First Edition by Tata McGraw-Hill Education, 2013
2. Ethem Alpaydin, "Introduction to Machine Learning" 2nd Edition, The MIT Press, 2009
3. Christopher M. Bishop, "Pattern Recognition and Machine Learning" by Springer, 2007
4. Mevin P. Murphy, "Machine Learning: A Probabilistic Perspective" by The MIT Press, 2012

## Suggested Readings

# M.Sc.(Computer Science) Lateral Entry

1. Machine Learning For Dummies, John Paul Mueller, Luca Massaron,For Dummies; 1st edition
2. Machine Learning for Absolute Beginners: A Plain English Introduction, O Theobald, Scatterplot Press; 2nd edition
3. Introduction to Machine Learning with Python: A Guide for Data Scientists, Andreas C. Müller, Sarah Guido,O'Reilly; 1st edition
4. <https://www.cmpe.boun.edu.tr/~ethem/i2ml3e/>

**Paper Code:**FS-COMP-MCSLE-CC-205a

**Paper Name:** Natural Language Processing

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## **Course Objectives:**

CO1. To have an introduction of the fundamental concepts and techniques of natural language processing (NLP).

CO2. To gain an in-depth understanding of the computational properties of natural languages and the commonly used algorithms for processing linguistic information.

CO3. To examine NLP models and algorithms using both the traditional symbolic and the more recent statistical approaches.

CO4. To understand critical concepts from NLP are used to describe and analyze language.

CO5. To perform POS tagging and context-free grammar for the English language.

CO6. To understanding semantics and pragmatics of English language for processing.

CO7. To write programs in Python to carry out natural language processing

## **Learning Outcomes:**

After completing this course, students will be able to-

LO1. Introduction to the fundamental concepts and techniques of natural language processing (NLP).

LO2. Students will gain an in-depth understanding of the computational properties of natural languages and the commonly used algorithms for processing linguistic information.

LO3. The course examines NLP models and algorithms using both the traditional symbolic and the more recent statistical approaches.

LO4. Critical concepts from NLP are used to describe and analyze language.

LO5. POS tagging and context-free grammar for the English language.

LO6. Understanding semantics and pragmatics of English language for processing.

LO7. Writing programs in Python to carry out natural language processing

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## **Unit I**

Introduction, Basics of text processing, Spelling Correction: Edit Distance; N-Gram Language Models, Evaluation of Language Models, Basic Smoothing, Computational Morphology, Introduction to POS Tagging, Overview of Hidden Markov Model, Basics of Models for Sequential tagging – Introduction to Maximum entropy and Conditional Random Fields.

## **Unit II**

Constituency syntax parsing, examples of parsing using CKY and PCFG, Introduction to Dependency Grammars and Parsing, understanding of Transition Based Parsing; Distributional Semantics - Introduction, Applications; Word Embedding: Frequency-based embedding, Prediction based embeddings. Lexical Semantics: an overview of WordNet, Word Sense Disambiguation.

# M.Sc.(Computer Science) Lateral Entry

## Unit III

Topic models: introduction, LDA; Introduction to Entity Linking and Information Extraction; Text Summarization: an overview of various approaches; Text Classification: introduction and simple practical implementation using Python. Sentiment Analysis: Concept, Analysis, and Applications.

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### Recommended Readings

1. Natural Language Understanding, Pearson Education; 2nd edition, James Allen
2. Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics and Speech Recognition, 2e, Jurafsky / Martin.
3. Handbook of Natural Language Processing, Nitin Indurkha, Fred J. Damerau, Taylor and Francis; Second edition
4. The Handbook of Computational Linguistics and Natural Language Processing, Alexander Clark, Chris Fox, Shalom Lappin, Wiley-Blackwell; 1st edition
5. Natural Language Processing with Python: Analysing Text with the Natural Language Toolkit, Steven Bird, Ewan Klein, Edward Loper, Shroff pub.
6. Foundations of Statistical Natural Language Processing, Christopher D. Manning, Hinrich Schütze, MIT press.

### Suggested Readings

1. Statistical Methods for Speech Recognition (Language, Speech, and Communication) Fourth Printing Edition, by Frederick Jelin
2. Neural Network Methods for Natural Language Processing Synthesis Lectures on Human Language Technologies, Yoav Goldberg, Graeme Hirst, Morgan and Claypool Life Sciences.

**Paper Code:**FS-COMP-MCSLE-CC-205b

**Paper Name:** Introduction to Cyber Security

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### Course Objectives:

- CO1. To identify and classify various attacks
- CO2. To encrypt and decrypt messages using block ciphers and signs.
- CO3. To create a digital signature using multiple algorithms.
- CO4. To describe web security, intruders, viruses, and firewalls

### Learning Outcomes:

After completing this course, students will be able to-

- LO1. Identify and classify various attacks
  - LO2. Encrypt and decrypt messages using block ciphers and signs.
  - LO3. Create a digital signature using multiple algorithms.
  - LO4. Describe web security, intruders, viruses, and firewalls
- 

## Unit I

Basics: Linux/Mac Terminal and Commands, Basic Computer Terminology, Computer Security models, Computer Security Terms, Computer Ethics, Business, and Professional Ethics, Need for cyber security; Cyber Frauds and crimes, Digital Payments, Various Search Engines, Introduction to Auditing, Deep Web, VAPT, Smartphone Operating systems, introduction to compliances, Globalization and borderless world.

# M.Sc.(Computer Science) Lateral Entry

## Unit II

Basic Python Scripting: Python Basics, Variables and Types, Lists, Basic Operators, String Formatting, Basic String Operations, Conditions, Loops, Functions, Classes and Objects, Dictionaries, Modules, and Packages.

## Unit III

Cyber Laws: Need for Cyber Regulations; Scope and Significance of Cyber laws: Information Technology Act 2000; Network and Network Security, Access and Unauthorised Access, Data Security, E Contracts and E Forms. Penal Provisions for Phishing, Spam, Virus, Worms, Malware, Hacking, Trespass, and Stalking; Human rights in cyberspace, International Co-operation in investigating cybercrimes.

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### Recommended Readings

1. Behrouz A. Forouzan (2004). Data communication and Networking. Tata McGraw-Hill.
2. Kurose, James F. & Ross, Keith W. (2003). Computer Networking: A Top-Down Approach Featuring the Internet (3rd Ed.). Pearson Education.
3. Langtangen, H.P. (2012). Python Scripting for Computational Science (4th Ed.). Springer
4. Craig, B. (2012). Cyber Law: The Law of the Internet and Information Technology. Pearson. Sharma J. P. & Kanojia S. (2016). Cyber Laws. New Delhi: Ane Books Pvt Ltd.
5. Paintal, D. Law of Information Technology. New Delhi: Taxmann Publications Pvt. Ltd

### Suggested Readings

1. Shema, M. (2012). Hacking Web Apps: Detecting and Preventing Web Application Security Problems.
2. <https://uou.ac.in/sites/default/files/slm/Introduction-cyber-security.pdf>
3. Computer Programming And Cyber Security for Beginners: This Book Includes: Python Machine Learning, SQL, Linux, Hacking with Kali Linux, Ethical Hacking. Coding and Cybersecurity Fundamentals, Zach Codings, Independently published

**Paper Code:**FS-COMP-MCSLE-CC-205c

**Paper Name:** Combined Practical & Project/Dissertation/Industrial Training

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### Course Objectives:

- CO1. Identify and define the problem statement
- CO2. Define and justify the scope of the proposed problem
- CO3. Gather and analyze system requirements
- CO4. Propose an optimized solution among the existing solutions
- CO5. Practice software analysis and design techniques
- CO6. Develop technical report writing and oral presentation skills
- CO7. Develop a functional application based on the software design
- CO8. Apply to code, debugging, and testing tools to enhance the quality of the software
- CO9. Prepare the proper documentation of software projects following the standard guidelines
- CO10. Become a master in specialized technology
- CO11. Become updated with all the latest changes in the technological world.
- CO12. Ability to communicate efficiently.
- CO13. Ability to be a multi-skilled engineer with sound technical knowledge, management, leadership, and entrepreneurship skills.
- CO14. Capability and enthusiasm for self-improvement through continuous professional development and life-long learning
- CO15. Awareness of the social, cultural, global, and environmental responsibility of an engineer.

# M.Sc.(Computer Science) Lateral Entry

## Learning Outcomes

After completing this course, students will be able to:

- LO1. Identify and define the problem statement
- LO2. Define and justify the scope of the proposed problem
- LO3. Gather and analyze system requirements
- LO4. Propose an optimized solution among the existing solutions
- LO5. Practice software analysis and design techniques
- LO6. Develop technical report writing and oral presentation skills
- LO7. Develop a functional application based on the software design
- LO8. Apply to code, debugging, and testing tools to enhance the quality of the software
- LO9. Prepare the proper documentation of software projects following the standard guidelines
- LO10. Become a master in specialized technology
- LO11. Become updated with all the latest changes in the technological world.
- LO12. Ability to communicate efficiently.
- LO13. Ability to be a multi-skilled engineer with sound technical knowledge, management, leadership, and entrepreneurship skills.
- LO14. Capability and enthusiasm for self-improvement through continuous professional development and life-long learning
- LO15. Awareness of the social, cultural, global, and environmental responsibility of an engineer.

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## Practical Training and Project Work:

1. Project Work may be done individually or in groups in case of bigger projects. However, if the project is done in groups, each student must be given responsibility for a distinct module and care should be taken to monitor the individual student.
2. Project Work can be carried out in the college or outside with prior permission of the college.
3. The Student must submit a synopsis of the project report to the college for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of the draft project report, the student should make the final copies.

## Submission Copy:

The Student should submit a spiral-bound copy of the project report.

## Format of the Project:

1. **Paper:**  
The Report shall be typed on White Paper of A4 size.
2. **Final Submission:**  
The Report to be submitted must be original.
3. **Typing:**  
**Font:-** Times New Roman  
**Heading:-** 16 pt., Bold  
**Subheading:-** 14 pt, Bold  
**Content:-** 12 pt.  
**Line Spacing:-** 1.5 lines.  
**Typing Side:-** One Side  
**Font Color:-** Black.
4. **Margins:**  
The typing must be done in the following margin:  
**Left:** 0.75”  
**Right:** 0.75”  
**Top:** 1”  
**Bottom:** 1”  
**Left Gutter:** 0.5”

# M.Sc.(Computer Science) Lateral Entry

## 5. **Binding:**

The report shall be Spiral Bound.

## 6. **Title Cover:**

The Title cover should contain the following details:

**Top:** Project Title in block capitals of 16pt.

**Centre:** Name of project developer's and Guide name.

**Bottom:** Name of the university, Year of submission all in block capitals of 14pt letters on separate lines with proper spacing and centering.

## 7. **Blank sheets:**

At the beginning and end of the report, two white blank papers should be provided, one for the Purpose of Binding and the other to be left blank.

## 8. **Content:**

- I). Acknowledgment
- II). Institute/College/Organization certificate where the project is being developed.
- III). Table of contents
- IV). A brief overview of the project
- V). Profiles of problems assigned
- VI). Study of Existing System
- VII). System Requirement
- VIII). Project plan
  - o Team Structure
  - o Development Schedule
  - o Programming language and Development Tools
- IX). Requirement Specification
- X). Design
  - o Detailed DFD and Structure Diagram
  - o The data structure, Database, and File Specification
- XI). Project Legacy
  - Current Status of project
  - Remaining Areas of concern
  - Technical and Managerial Lessons Learnt
  - Future Recommendations
  - o Nomenclature and Abbreviations.
  - o Bibliography
  - o Source Code

## Teaching-Learning Process

The teaching-learning process may include the following-

- Lectures
- Discussions
- Simulations
- Virtual Labs
- Role-Playing
- Participative Learning
- Interactive Sessions
- Seminars
- Research-based Learning/ Dissertation/ Case Study/ Project Work

The Blended Learning mode of teaching and learning is preferable in which offline (face-to-face) and online learning both are used to provide learners the opportunity to enjoy both of the worlds. Teachers can share instructions, lecture notes, and assignments online. On the other hand,



## M.Sc.(Computer Science) Lateral Entry

\* **An Academic/ Industrial Tour shall be organized by the college/department in every session. A Tour Report shall be prepared and submitted by the students after a study tour to industries/academic institutions of repute.**

- A comprehensive and continuous evaluation by mid-semester examinations at regular intervals to find out each course level learning outcome
- Formative assessment on the basis of activities of a learner throughout the program instead of one assessment. for this provision of internal exams, student seminars, and assignments is included
- Open book exam is suggested for internal/ mid-term exams to better facilitate the understanding of the knowledge required
- Group examinations are recommended on problem-solving exercises and in major projects to enhance the teamwork capabilities of the learner
- Collaborative/Individual assignments are useful to enhance the capability of learners to gain domain-specific knowledge
- Student Seminars and Quizzes are recommended for the continuous learning and evaluation process

### Evaluation

|                       |                        |     |
|-----------------------|------------------------|-----|
| Internal Assessment - | Midterm Examination    | 10% |
|                       | Term paper             | 10% |
|                       | Students Participation | 5%  |
| External Assessment-  | 75%                    |     |

### Examination Paper Pattern

The question paper contains 3 sections. **Section-A** consists of 10 questions (at least 3 questions from each unit of syllabus). **Section-B** will consist of 9 questions (3 questions from each unit). **Section-C** will consist of 6 questions (2 questions from each unit). The word limit of parts A, B, and C are 50, 200, and 500 respectively

## Key Features of Revised Curriculum

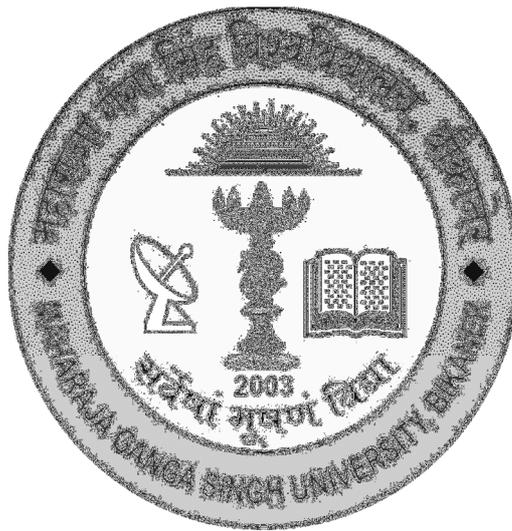
Following are the key features of the revised curriculum-

- Student Centric Teaching and Learning approach
- Technology oriented approach of teaching
- Hand-on Practical/ Laboratory Sessions
- Problem-oriented teaching and learning
- Problem-analysis oriented assignments and evaluation
- Enhance logical thinking and analytical capabilities

## Appendices

List of Open Electives offered by the University -

**M. G. S. UNIVERISTY,  
BIKANER  
SYLLABUS  
PG DIPLOMA IN TRANSLATION  
2021-22**



**Maharaja Ganga Singh University  
Bikaner**

# Post Graduate Diploma in Translation

## Objectives:

- To make the students understand the process of translation.
- To give them hands-on experience in translation.
- To enable the learners, translate from Hindi to English & Vice-Versa.

**Eligibility:** 48% in Graduation from any stream/Any other equivalent Degree.

**Duration:** One Year

**Intake:** 20

## Course Contents:

There shall be three papers in the Course.

**Paper - I                      Anuvad Translation- Concept and Notion**

**Paper - II                     Anuvad and Structure**

**Paper – III                  Culture and Anuvad**

## Methodology:

| Diploma               | Weightage        |
|-----------------------|------------------|
| (i) Practical Classes | 50% of the total |
| (ii) Theory Classes   | 50% of the total |

## Evaluation:

The students will be evaluated through continuous comprehensive evaluation system. The evaluation will be done through.

- (i) Translation Practice (Weightage 50%)
- (ii) The Terminal Theory Examination (Weightage 50%)

Translation Practice evaluation shall carry 50 marks and will be done at the level of the teacher. Translation Practice shall include-

- (i) Assignments on Translation (10 Marks)
- (ii) On the Spot Translation (10 Marks)

(It shall include a passage of approximately 200 words for Translation from English to Hindi and Vice-Versa.)

- (iii) Translation Project (30 Marks)

(It shall include a passage of approximately 1500-2000 words for Translation from English to Hindi and Vice-Versa. The Candidate shall deposit the project between 15 Febuary and 15 March.)

## Syllabus

### **Paper – I Anuvad- Concept and Notion**

#### **(A) Theory**

Unit – I What is Translation?

Unit – II Tools of Translation – Monolingual and Bilingual Dictionaries, Encyclopedias, E-Dictionaries, Glossaries of Technical and Standard works

Unit – III The Qualities of a Translator

- a. Sound knowledge of the source language
- b. Proficiency in the target language
- c. Sensitivity to language style
- d. Patience and Restraint

#### **(B) Translation Practice (For Internal Evaluation)**

- a. Technical Terms/ पारिभाषिक शब्दावली
- b. Phrases/ वाक्यांश (Hindi-English and English-Hindi)
- c. Idioms and Phrases (Hindi Equivalents of English and English Equivalents of Hindi)

### **Paper – II Anuvad and Structure**

#### **(A) Theory**

Unit – I Study of the structure of English and Hindi

- a. The level of sound
- b. Word formations and words
- c. Sentence structure
- d. Phrases, Idioms, Proverbs and Other contextualized expressions

Unit – II The process of Translation

- a. Analysis
- b. Transference
- c. Restructuring

Unit – III Translationese

#### **(B) Translation Practice (For Internal Evaluation)**

- a. Sentence (Hindi to English and English to Hindi)
- b. Translation of English Passage into Hindi

- c. Translation exercise (English to Hindi and Hindi to English)

### **Paper – III Culture and Anuvad**

#### **(A) Theory**

Unit – I Text and Culture

- a. The tone of the Text
- b. Lexicon
- c. Syntax
- d. Idioms
- e. Figurative Language
- f. Language Style

Unit – II Cultural Nuances in Translation

Unit – III Official Correspondence, Cultural Norms and Translation

#### **(B) Translation Practice (For Internal Evaluation)**

- a. Oral Translation (English to Hindi and Hindi to English)

#### **Suggested Readings:**

Bijay Kumar Das *A Handbook of Translation Studies*. (Atlantic Publishers & Distributers)

R.K. Sinha : *Oxford Current English Translation* (OUP)

S.C. Gupta : *Hindi English Expert Translator* (Arihant Publication)

*A Companion to Translation Studies* (Orient Blackswan)

अनुवाद (*Translation ATR-1* (Gullybaba Publishing House Pvt. Ltd.)

**M. G. S. UNIVERISTY, BIKANER**

**SYLLABUS**

**Master of Arts  
Drawing and Painting  
(Semester System)  
Session-2021-22**



**Maharaja Ganga Singh  
University  
Bikaner**

**Learning Outcome-based Curriculum Frame Work (LOCF)**

**for**

**Master of Arts  
Drawing and Painting**

**Department of Drawing and Painting  
Maharaja Ganga Singh University, Bikaner**

## **Background**

Considering the curricular reforms as instrumental for desired learning outcomes, all the academic Department of Maharaja Ganga Singh University made a rigorous attempt to revise the curriculum of postgraduate programmes in alignment with National Education Policy-2020 and UGC Quality Mandate for Higher Education Institutions-2021. The process of revising the curriculum could be prompted with the adoption of "Comprehensive Roadmap for Implementation of NEP". The Roadmap identified the key features of the Policy and elucidated the Action Plan with well-defined responsibilities and indicative timeline for major academic reforms.

The process of revamping the curriculum started with the series of webinars and discussions conducted by the University to orient the teachers about the key features of the Policy, enabling them to revise the curriculum in sync with the Policy. Proper orientation of the faculty about the vision and provisions of NEP-2020 made it easier for them to appreciate and incorporate the vital aspects of the Policy in the revised curriculum focusing on creating holistic, thoughtful, creative and well-rounded individuals equipped with the key 21st century skills 'for the development of an enlightened, socially conscious, knowledgeable, and skilled nation'.

With NEP-2020 in background, the revised curricula articulate the spirit of the Policy by emphasising upon- integrated approach to learning; innovative pedagogies and assessment strategies; multidisciplinary and cross-disciplinary education; creative and critical thinking; ethical and Constitutional values through value-based courses; 21st century capabilities across the range of disciplines through life skills, entrepreneurial and professional skills; community and constructive public engagement; social, moral and environmental awareness; Organic Living and Global Citizenship Education (GCED); holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning; exposure to Indian knowledge system, cultural traditions and classical literature through relevant courses offering 'Knowledge of India'; fine blend of modern pedagogies with indigenous and traditional ways of learning; flexibility in course choices; student-centric participatory learning; imaginative and flexible curricular structures to enable creative combination of disciplines for study; offering multiple entry and exit points, alignment of Vocational courses with the International Standard Classification of Occupations maintained by the International Labour Organization; breaking the silos of disciplines; integration of extra-curricular and curricular aspects; exploring internships with local industry, businesses, artists and crafts persons; closer collaborations between industry and higher education institutions for technical, vocational and science programmes; and formative assessment tools to be aligned with the learning outcomes, capabilities, and dispositions as specified for each course. The University has also developed consensus on adoption of Blended Learning with 10% component of online teaching and 90% face to face classes for each programme.

The revised curricula of various programmes could be devised with concerted efforts of the Faculty, Heads of the Departments and Deans of Schools of Study. The draft prepared by each department was discussed in series of discussion sessions conducted at Department, Faculty and

the University level. The leadership of the University has been a driving force behind the entire exercise of developing the uniform template and structure for the revised curriculum. The Vice Chancellor of the University conducted series of meetings with Heads and Deans to deliberate upon the vital parameters of the revised curriculum to formulate a uniform template featuring Background, Programme Outcomes, Programme Specific Outcomes, Postgraduate Attributes, Structure of Masters Course, Learning Outcome Index, Semester-wise Courses and Credit Distribution, Course-level Learning Outcomes, Teaching-Learning Process, Blended Learning, Assessment and Evaluation, Keywords, References and Appendices. The experts of various Boards of Studies and Faculties contributed to a large extent in giving the final shape to the revised curriculum of each programme.

**To ensure the implementation of curricular reforms envisioned in NEP-2020, the University has decided to implement various provisions in a phased manner. Therefore, the curriculum may be reviewed annually so as to gradually include all relevant provisions of NEP-2020.**

### **Programme Outcomes (POs)**

|       | <b>Description</b>  |
|-------|---|
| PO-1  | Understand the World, their country, their society as well as themselves and have awareness of ethical problems, social rights, values and responsibility to the self and to others.  |
| PO-2  | Demonstrate critical understanding of the subjects of Languages, psychology and philosophy in their varies forms.   |
| PO-3  | Develop creative and critical insights, aesthetic sensibility, analytical skills, and Psychological and Philosophical insights.   |
| PO-4  | Follow innovations and developments in Psychology, Philosophy and varied languages such as such as English, Hindi, Urdu, Punjabi,Sanskritetc and demonstrate personal and organizational entrepreneurship and engage in life-long learning. |
| PO-5  | Develop knowledge of theories, concepts and research methods in Humanities and Social Sciences.   |
| PO-6  | Communicate effectively in English, Hindi, Sanskrit, Urdu and Punjabi by oral, written, graphical and technological means.  |
| PO-7  | Know how to access written and visual, primary and secondary sources of information, interpret concepts and data from a variety of sources in developing disciplinary and inter disciplinary analyses.                                      |
| PO-8  | Demonstrate skills to conduct research in accordance with the ethical standards of the discipline.  |
| PO-9  | Exercise values that reflect commitment to diversity and contribution to society.   |
| PO-10 | Apply Psychological, Philosophical and linguistic knowledge and scientific thinking in writing and speaking skills in Professional settings.  |
| PO-11 | Develop advanced research designs and apply advanced statistical analyses.  |
| PO-12 | Develop effective teaching skills and be able to satisfy the University and the School  |

|       |  |
|-------|--|
|       | level expectations.  |
| PO-13 | Develop the skills to appreciate and participate in citizenship in the academic community, in the larger community and in the world and be able to foster Bhartiya ideals including truth and justice. |
| PO-14 | Develop the skills to apply the Philosophy and Psychology of language.   |

### **Programme Specific Outcomes(PSOs)**

The Program Outcome (PSO) are the Statement of Competencies/ abilities. PSOS are the statement describes the knowledge and abilities the Post Graduate have by the end of Program Studies.

|       | <b>Description</b>   |
|-------|--|
| PSO-1 | To acquaint the students with significant art movements and its impact on society and fine arts  |
| PSO-2 | To offer insights into different cultural, textual and value traditions of the world through various art forms   |
| PSO-3 | To develop openness to new ideas, perspectives and ways of thinking through fine arts  |
| PSO-4 | To infuse aesthetic sensibility, critical and analytical skills along with creativity  |
| PSO-5 | To interpret the critical ideas, values and themes that appear in the literary, cultural texts and various art forms and to understand the way these ideas, values themes inform and impact culture, society and fine arts |
| PSO-6 | To demonstrate a command of fine arts including the ability to organize and present material in a cogent fashion and employ effectively fine arts  |
| PSO-7 | To analyze, interpret and create form and content of work of art   |
| PSO-8 | To develop the analytical and technical skills and organize and apply the visual elements to communicate concepts and experiences across various media   |

## Learning Outcome Index

### I. Programme Outcomes (PO) and Programme Specific Outcomes (PSO)

| PO   | PSO-1 | PSO-2 | PSO-3 | PSO-4 | PSO-5 | PSO-6 | PSO-7 | PSO-8 | PSO-9 | PSO-10 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| PO-1 | X     |       | X     | X     | X     | X     |       | X     | X     | X      |
| PO-2 |       | X     | X     |       | X     | X     | X     | X     |       | X      |
| PO-3 | X     |       | X     | X     |       | X     | X     | X     | X     |        |
| PO-4 | X     | X     | X     | X     | X     | X     | X     |       | X     | X      |
| PO-5 | X     | X     | X     | X     | X     |       | X     | X     | X     |        |
| PO-6 | X     | X     | X     |       | X     | X     | X     |       | X     | X      |
| PO-7 | X     | X     | X     |       | X     | X     | X     | X     | X     |        |
| PO-8 |       | X     | X     | X     | X     | X     | X     | X     | X     | X      |

**I. Core Courses (CC):**

| PSO   | CC-1 | CC-2 | CC-3 | CC-4 | CC-5 | CC-6 | CC-7 | CC-8 | CC-9 | CC-10 | CC-11 | CC-12 | CC-13 | CC-14 | CC-15 | CC-16 | CC-17 |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| PSO-1 | X    |      | X    | X    | X    | X    |      | X    | X    | X     | X     | X     | X     | X     | X     | X     | X     |
| PSO-2 |      | X    | X    |      | X    | X    | X    | X    |      | X     | X     | X     | X     | X     |       | X     | X     |
| PSO-3 | X    |      | X    | X    |      | X    | X    | X    | X    |       | X     | X     | X     | X     | X     | X     | X     |
| PSO-4 | X    | X    | X    | X    | X    | X    | X    |      | X    | X     | X     | X     |       | X     |       | X     | X     |
| PSO-5 | X    | X    | X    | X    | X    |      | X    | X    | X    |       | X     | X     | X     |       | X     | X     | X     |
| PSO-6 | X    | X    | X    |      | X    | X    | X    |      | X    | X     | X     | X     | X     | X     | X     | X     | X     |
| PSO-7 | X    | X    | X    |      | X    | X    | X    | X    | X    |       | X     | X     | X     |       | X     | X     | X     |
| PSO-8 |      | X    | X    | X    | X    | X    | X    | X    | X    | X     | X     | X     |       | X     | X     | X     | X     |

**II. Elective Courses (EC):**

| PSO   | EC-1 | EC-2 | EC-3 | EC-4 | EC-5 | EC-6 | EC-7 | EC-8 | EC-9 | EC-10 | EC-11 | EC-12 | EC-13 |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| PSO-1 | X    | X    | X    |      | X    | X    | X    |      | X    | X     | X     | X     | X     |
| PSO-2 | X    |      | X    | X    |      | X    | X    | X    | X    | X     |       | X     | X     |
| PSO-3 |      | X    | X    | X    | X    | X    |      | X    | X    | X     | X     |       | X     |
| PSO-4 | X    | X    | X    | X    | X    |      | X    | X    |      | X     | X     | X     | X     |
| PSO-5 | X    | X    |      | X    | X    | X    |      | X    | X    | X     |       | X     | X     |
| PSO-6 | X    |      | X    | X    |      | X    | X    |      | X    |       | X     | X     | X     |
| PSO-7 | X    | X    | X    |      | X    | X    |      | X    | X    | X     | X     | X     | X     |
| PSO-8 |      | X    | X    | X    | X    |      | X    | X    |      | X     | X     | X     | X     |

**Postgraduate Attributes**

- Disciplinary Knowledge
- Creative and Critical Thinking
- Analytical Reasoning
- Communication Skills through Art
- Life Skills
- Multi-Cultural Competence
- Moral and Ethical Values
- Life Long Learning
- Global
- Competency

**Teaching Learning Process**

- Lectures
- Discussions
- Simulations
- Role Playing
- Participative Learning
- Interactive Sessions
- Seminars
- Research-based Learning/Dissertation or Project Work
- Technology-embedded Learning

**STRUCTURE OF PROGRAMME  
SEMESTER-I**

| Sr.                            | Course Title                                 | Course Code   | L | T | P | Credits |
|--------------------------------|--|---------------|---|---|---|---------|
| <b>Core Foundation Course</b>  |  |               |   |   |   |         |
| (i)                            | Fundamentals of Arts                         | FA-D&P-CF-100 | 4 | 1 | 0 | 5       |
| <b>Core Compulsory Courses</b> |  |               |   |   |   |         |
| (i)                            | A Study of Eastern and Western Aesthetics –I | FA-D&P-CC-101 | 4 | 1 | 0 | 5       |
| (ii)                           | History of Indian Art –I                     | FA-D&P-CC-102 | 4 | 1 | 0 | 5       |
| (iii)                          | Landscape (Monochrome)<br>Practical          | FA-D&P-CC-103 | 2 | 1 | 2 | 5       |
| (iv)                           | Portrait Study (Monochrome)<br>Practical     | FA-D&P-CC-104 | 2 | 1 | 2 | 5       |

**SEMESTER-II**

| Sr.                            | Course Title                                  | Course Code   | LTP |   |   | Credits |
|--------------------------------|---|---------------|-----|---|---|---------|
| <b>Core Foundation Course</b>  |   |               |     |   |   |         |
| (ii)                           | National And Human Values                     | FA-D&P-CF-200 | 4   | 1 | 0 | 5       |
| <b>Core Compulsory Courses</b> |   |               |     |   |   |         |
| (v)                            | A Study of Eastern and Western Aesthetics –II | FA-D&P-CC-201 | 4   | 1 | 0 | 5       |
| (vi)                           | History Of Indian Art-II                      | FA-D&P-CC-202 | 4   | 1 | 0 | 5       |
| (vii)                          | Landscape (Coloured)<br>Practical             | FA-D&P-CC-203 | 2   | 1 | 2 | 5       |
| (viii)                         | Portrait Study (Coloured)<br>Practical        | FA-D&P-CC-204 | 2   | 1 | 2 | 5       |

## SEMESTER-III

| Sr.                            | Course Title                                  | Course Code    | LTP |   |   | Credits |
|--------------------------------|---|----------------|-----|---|---|---------|
| <b>Core Compulsory Courses</b> |   |                |     |   |   |         |
| (ix)                           | History and Philosophy of Modern Art-I        | FA-D&P-CC-301  | 4   | 1 | 0 | 5       |
| (x)                            | History Of Western Art –I                     | FA-D&P-CC-302  | 4   | 1 | 0 | 5       |
| <b>Core Elective Courses</b>   |   |                |     |   |   |         |
| (xi)A                          | Composition (Figurative)<br>Practical         | FA-D&P-CE-303A | 2   | 1 | 2 | 5       |
|                                | or  |                |     |   |   |         |
| (xi)B                          | Print Making (Leno)<br>Practical              | FA-D&P-CE-303B | 2   | 1 | 2 | 5       |
| (xii)A                         | Nature Study (Monochrome)<br>Practical        | FA-D&P-CE-304A | 2   | 1 | 2 | 5       |
|                                | or  |                |     |   |   |         |
| (xii)B                         | Creative Still Life (Monochrome)<br>Practical | FA-D&P-CE-304B | 2   | 1 | 2 | 5       |
|                                | or  |                |     |   |   |         |
| (xii)C                         | Life Study (Monochrome)<br>Practical          | FA-D&P-CC-304C | 2   | 1 | 2 | 5       |
| <b>Open Elective Courses</b>   |   |                |     |   |   |         |
| (xiii)A                        | 2D Design (Monochrome)<br>Practical           | FA-D&P-OE-305A | 2   | 1 | 2 | 5       |
|                                | or  |                |     |   |   |         |
| (xiii)B                        | Rendering (Monochrome)<br>Practical           | FA-D&P-OE-305B | 2   | 1 | 2 | 5       |

## SEMESTER-IV

| Sr.                          | Course Title                                | Course Code    | LTP |   |   | Credits |
|------------------------------|---|----------------|-----|---|---|---------|
| <b>Core Course</b>           |   |                |     |   |   |         |
| (xiv)                        | History and Philosophy of Modern Art -II    | FA-D&P-CC-401  | 4   | 1 | 0 | 5       |
| (xv)                         | History of Western Art –II                  | FA-D&P-CC-402  | 4   | 1 | 0 | 5       |
| <b>Core Elective Courses</b> |   |                |     |   |   |         |
| (xvi)A                       | Composition (Non-Figurative)<br>Practical   | FA-D&P-CE-403A | 2   | 1 | 2 | 5       |
|                              | or  |                |     |   |   |         |
| (xvi)B                       | Print Making (Wood)<br>Practical            | FA-D&P-CE-403B | 2   | 1 | 2 | 5       |
| (xvii)A                      | Nature Study (Coloured)<br>Practical        | FA-D&P-CE-404A | 2   | 1 | 2 | 5       |
|                              | or  |                |     |   |   |         |
| (xvii)B                      | Creative Still Life (Coloured)<br>Practical | FA-D&P-CE-404B | 2   | 1 | 2 | 5       |
|                              | or  |                |     |   |   |         |

|          |                                    |                |   |   |   |   |
|----------|------------------------------------|----------------|---|---|---|---|
| (xvii)C  | Life Study (Coloured)<br>Practical | FA-D&P-CC-404C | 2 | 1 | 2 | 5 |
|          | <b>Open Elective Courses</b>       |                |   |   |   |   |
| (xviii)A | 2D Design (Coloured)<br>Practical  | FA-D&P-OE-405A | 2 | 1 | 2 | 5 |
|          | or                                 |                |   |   |   |   |
| (xviii)B | Rendering (Coloured)<br>Practical  | FA-D&P-OE-405B | 2 | 1 | 2 | 5 |

**Semester-I**  
**Course-Fundamentals of Arts**  
**Code-FA-D&P-CF-100**

**Course Objectives:**

- To introduce the students to the fundamental of arts
- To acquaint the students with different art forms, its elements and compositions
- To familiarize the students with the creative process of arts

**Course Level Learning Outcomes:**

On the successful Completion of course, students shall be able to :-

- Understand the basics of arts
- Appreciate the aesthetics and styles of different art forms
- Learn about the basic principles of art, colour, media and its application

**Course Description:****Unit-I**

Meaning and Definition of Art, Visual and Performing Arts (Painting, Sculpture, Music, Dance and Drama) Deference between Fine Arts, Commercial Arts and Folk Arts

**Unit-II**

Creative Process - Observation, Perception, Imagination and Creative Expression, Six Limbs of Indian Painting

**Unit-III**

Art Techniques and Materials Fresco (Buno and Secco), Wash and Wash, Graphic Art (Lino, Wood, Etching)

**Unit-IV**

Elements of Painting- Line, Form, Colour, Tone, Texture, Space

**Unit-V**

Principles of Composition- Unity, Harmony, Balance, Rhythm, Dominance and Proportion

**Assessment And Evaluation**

|                              |  |     |
|------------------------------|--|-----|
| <b>Internal Assessment</b> – | Midterm Examination                            | 10% |
|                              | Term Paper                                     | 10% |
|                              | Students Participation and overall performance | 5%  |

**External Assessment- 75%**

**Terminal Examination****Time: 3Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings:**

- साखलकर र.वि., कलाकोष, राजस्थान हिन्दीग्रंथ अकादमी, जयपुर, 2019
- वासलीवाल मीनाक्षी, ललितकला के आधारभूत सिद्धान्त, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर, 2019
- जौहरी ऋतु, भारतीय कला समीक्षा विचार व रूप, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर, 2020

**Suggested Readings:**

- यादव नरेन्द्र सिंह, यादव अजय, *कला के नवीन स्वरूप*, राजस्थानहिन्दीग्रंथअकादमी, जयपुर, 2019
- Barrington, Barber, *The Fundamentals Of Drawing Portraits*, Arcturus publishing
- Barrington, Barber *The Complete Fundamentals Of Drawing*, Capella publishing

**Course –A Study of Eastern And  
Western Aesthetics-I  
Code-FA-D&P-CC-101**

**Course Objectives:**

- To familiarize the students with the Eastern and Western aesthetics
- To enable the students, develop critical understanding of philosophy, psychology and its significance in arts
- To help students develop critical insights into the literary works and understand the texts as a means of communication

**Course Level Learning Outcomes:**

On the successful Completion of course, students shall be able to:-

- Develop an understanding about Eastern and Western Aesthetics
- Understand philosophy, psychology and its relevance to arts
- Develop an understanding about relationship between art and literature

**Course Description:**

**Unit-I**

Aesthetics of Eastern and Western Concept of Beauty

**Unit-II**

Plato, Aristotle, Augustine

**Unit-III**

Leonardo da Vinci, Baumgarten, Hegel

**Unit-IV**

Shelling, Kant

**Unit-V**

Freud, Tolstoy, Moorie sweitz

**Assessment And Evaluation**

|                              |  |     |     |
|------------------------------|--|-----|-----|
| <b>Internal Assessment –</b> | Midterm Examination                            | 10% |     |
|                              | Term Paper                                     |     | 10% |
|                              | Students Participation and overall performance |     | 5%  |

**External Assessment- 75%**

**Terminal Examination**

**Time: 3Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings:**

- चतुर्वेदी ममता, *सौंदर्यशास्त्र*—राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर, 2020
- Kumaraswami A .K, *Christian And Oriental Philosophy of Art*, Dover Publications 2011.
- Gaunt William, *Aesthetics Adventure*, West Richard, 1945
- Gillbert Katherine, *History of Aesthetics, The journal of Aesthetics and art criticism volume -1, 1941*

**Suggested Readings:**

- Gillbert K.G. *History of Western Aesthetics*, New York: The Macmillan Co 1939.
- Pandey K.C. *History of Western Aesthetics*, The Chowk jhamba Sanskrit Series Office 1972.
- Pandey K.C. *History of Oriental Aesthetics*, The Journal of Aesthetics and Art Criticism.

**Course - History of Indian Art -I****Code-FA-D&P-CC-102****Course Objectives:**

- To enable the students, understand the relationship between art, history and culture
- To enable the students to know about different School of arts
- To familiarize the students with Visual arts and its complexities

**Course Level Learning Outcomes:**

On the successful Completion of course, students shall be able to :-

- Learn about different schools of arts and the difference in the art forms
- Understand about Indian Arts and different aspects of beauty
- Recognize elements of design in the works of art

**Course Description****Unit-I**

Prehistoric Indian Paintings

**Unit-II**

Mohan jodaro and Harapa, Jogimara Cave

**Unit-III**

Ajanta, Bagh, Sigiria

**Unit-IV**

Paland Jain School, Rajasthani School

**Unit-V**

Pahari School, Mughal School

**Assessment And Evaluation**

|                              |  |     |     |
|------------------------------|--|-----|-----|
| <b>Internal Assessment –</b> | Midterm Examination                            | 10% |     |
|                              | Term Paper                                     |     | 10% |
|                              | Students Participation and overall performance |     | 5%  |

**External Assessment- 75%****Terminal Examination****Time: 3 Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings:**

- प्रताप रीता, *भारतीय चित्रकला एवं मूर्तिकला का इतिहास*, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर, 2021
- Brown Percy, *Indian Painting*, Read Books 2007
- Galbraith, *Indian Painting*, Houghton Mifflin, 1968
- Kramrisch Stella, *The Art of India*, Phaidon Press 1965

**Suggested Reading:**

- Brown Percy *Indian Painting*, Association Press, Calcutta, 1920
- Randhava M. S., *Indian Painting*, Roli Books, 1981
- Galbraith, *Indian Painting*, Houghton Mifflin, 1968

**Course-Landscape (Monochrome)****Code-FA-D&P-CC-103****Course Objectives:**

- To understand the part of Objects, Lives and Still Life
- To develop the observation power in a very personalized manner
- To familiarize the students with ratio, nature, proportion, shape, perspective, comprehension and speciality with detail characteristics of the subject

**Course Level Learning Outcomes:**

On the successful Completion of course, students shall be able to :-

- Understand the part of Objects, Lives and Still life
- Develop observation power and learn minuteness of different art forms
- Understand characteristics of ratios, nature, proportion, shape, perspective, comprehension

**Course Description:**

Students shall work on Landscape, Study from nature, Street Scrapes and a City Scrape with Historical Monuments.

Importance must be given to proportion- aerial and linear perspective, Students shall develop the skill of proper handling and treatment of media

**Assessment And Evaluation**

Internal Assessment- \*Submission Work- 20%

External Assessment- 80%

**Terminal Examination**

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size of paper-1/2 Imperial**

**Medium- Charcoal, Graphite, Blackink**

**\*Submission work: -**

The Submission work shall include following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Pencil or Colour Sketches of Human , Animal , Study of trees , Lanes , Human faces &Body parts etc.
- III- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course - Portrait Study (Monochrome)**

**Code-FA-D&P- CC-104**

**Course objectives:**

- To enable the students, know about preparation of portrait from life and its transformation into composition.
- To enable the student, know art work and analyse the work contextually
- To develop independent artistic thinking and aptitude for a rigorous studio practice.

**Course Level Learning Outcomes:**

On the successful Completion of course, students will be able to :-

- Understand about the portrait from life and its transformation into composition.
- Learn about the human anatomy and drawing.
- Demonstrate independent artistic thinking and aptitude by depiction

**Course Description**

Students shall work on portrait from Model of different age groups showing characteristics, vitality, resemblance, proportion, features etc.

**Assessment and Evaluation**

Internal Assessment- \*Submission Work- 20%

External Assessment- 80%

**Terminal Examination**

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size-1/2 Imperial**

**Medium- Charcoal, Graphite, Black ink**

**\*Submission work: -**

The submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper, Pencil or Colour Sketches of Human, Animal, Study of trees, Lanes, Human faces & Body parts etc.
- III- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Semester-II**  
**Course -National and Human Values**  
**Course Code -FA- ENG -CF-200**

**Course Objectives:**

- To inculcate national and human values in the Students
- To enable the students, imbibe the Indian cultural ethos
- To inculcate the spirit of Patriotism so that the students, develop a sense of strong bond with the nation
- To enable the students, grow into a citizen possessing civic sense

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to

- Attain the civic skills enabling him/her to become a well-behaved citizen of the country.
- Imbibe and spread the feelings of devotion and dedication.

**Course Description:****Unit-I**

**NCC** – Introduction, Aims, NCC Flag, NCC Song, NCC Administration, Raising of NCC in Schools/Colleges, NCC: Rank, Honours and Awards, NCC Training, NCC Camps, NCC Examinations, Incentive and Scholarship for Cadets.

**Importance of Discipline in life**, Aims and Merits of Discipline, Problems related to Indiscipline and Solutions.

**Drill** – Definition, Principles of Drill, Bad habits in drill, Words of Command, Drill Movements, Arms Drill, Squad Drill, Guard of Honour, Ceremonial Drill, Guard Mounting.  
 Contribution of NCC in Nation Building.

**Unit-II**

**Armed Forces** – Control Command, Organization of Armed Forces, Weapons of Army, Navy and Air Force, Training institutes, Honours and Awards, Recipients of Param Veer Chakra, Badges of Ranks.

**Commission in Armed Forces** – Recruitment in Armed Forces, Commission in Technical, Non-Technical and Territorial Forces.

**Weapon Training** – 0.22 Rifle, 7.62 Rifle, 7.62 SLR (Self Loading Rifle), 5.56 MM I.N.S.A.S. Rifle, L.M.G. (Light Machine Gun), Stan Machine Carbine, 2” Mortar, Grenade, Pistol, Various types of Firing, Range Procedure and Range Drill.

Military History and Geography, Field Craft, Field Engineering, Battle Craft.

**Unit-III**

Obstacle Training. Adventure Training, Self Defence, Physical Posture Training.

Social Service, Disaster Management, Health and Hygiene, First Aid.

Leadership, Personality Development, Decision Making, Motivation, Duty and Discipline, Morale.

**Unit-IV**

**Value System** – The Role of Culture and Civilization-Holistic living

Balancing the outer and inner – Body, Mind and Intellectual level- Duties and responsibilities

**Salient Values for Life**- Truth, commitment, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity, and inclusiveness

Self-esteem and Self Confidence  
punctuality – Time, task and resource management, Team work  
Positive and creative thinking.

#### Unit-V

Universal Declaration of Human Rights  
Human Rights violations  
National Integration – Peace and non-violence (in context of Gandhi, Vivekananda)  
Social Values and Welfare of the citizen  
The role of media in value building  
Fundamental Duties  
Environment and Ecological balance – interdependence of all beings – living and non-living.

#### Assessment and Evaluation:

The Students shall be assessed and evaluated as per the schedule given below –

1. Project Report / Case Study (in 5000-7000 words handwritten) – 75%
2. Viva-voce - 25%

The topics for the Project Report / Case Study shall be allotted by the Nodal Department (decided jointly with NSS wing under the supervision or IQAC) in consultation with the Department concerned. The Candidate shall submit the Report by the date fixed for the said purpose. It shall then be followed by a Viva-voce Examination. The whole evaluation shall be done by the Departmental Internal Faculty in consultation with the Nodal Department. It is a non-creditable Paper. The student will have to score simply a qualifying score/grade as specified in the CBCS rules.

The candidate will have to qualify the paper by the time He / She qualifies for the Programme. He/She can avail maximum 3 chances along with the Semester Examinations.

#### Suggested Readings:

- Hand Book of NCC : Major R C Mishra & Sanjay Kumar Mishra
- National Security: K. Subramanyam
- ASEAN Security: Air Comdr. Jasjit Singh
- Indian Political System, Dr .Pukhraj Jain &Dr. Kuldeep Fadiya
- हैण्ड बुक ऑफ एनसीसी, मेजर आर.सी.मिश्र एवं संजय कुमार मिश्र
- अन्तर्राष्ट्रीय राजनीति: वी.एल.फाड़िया
- भारतीय राजव्यवस्था, डॉ.पुखराज जैन, डॉ.कुलदीप फड़िया
- राष्ट्रीय प्रतिरक्षा: डॉ.हरवीर शर्मा, जय प्रकाश नाथ कंपनी, मेरठ
- राष्ट्रीय सुरक्षा: डॉ.लल्लनसिंह, प्रकाश बुक डिपो, बरेली
- राष्ट्रीय सुरक्षा: डॉ.नरेन्द्रसिंह, प्रकाश बुक डिपो, बरेली
- राष्ट्रीय सुरक्षा: डॉ.पाण्डेयवपाण्डेय, प्रकाश बुक डिपो, बरेली
- राष्ट्रीय रक्षा व सुरक्षा: डॉ.एस.के.मिश्र, मार्डन पब्लिशर्स, जालंधर
- NCERT, *Education in Values*, New Delhi, 1992.
- M.G.Chitakra: *Education and Human Values*, A.P.H. Publishing Corporation, New Delhi, 2003.
- Chakravarthy, S.K.: *Values and ethics for Organizations: Theory and Practice*, Oxford University Press, New Delhi, 1999.
- Satchidananda, M.K.: *Ethics, Education, Indian Unity and Culture*, Ajantha Publications, Delhi, 1991.
- Das, M.S. & Gupta, V.K.: *Social Values among Young adults: A Changing Scenario*, M.D.Publications, New Delhi, 1995.
- Bandiste, D.D.: *Humanist Values: A Source Book*, B.R. Publishing Corporation, Delhi, 1999.
- Ruhela, S.P. : *Human Values and Education*, Sterling Publications, New Delhi, 1986.
- Kaul, G.N.: *Values and Education in Independent Indian*, Associated Publishers, Mumbai, 1975.
- Swami Budhananda (1983) *How to Build Character A Primer* : Ramakrishna Mission, New Delhi.
- *A Cultural Heritage of India (4 Vols.)*, Bharatiya Vidya Bhavan, Bombay. (Selected Chapters only) For Life, For the future : Reserves and Remains – UNESCO Publication.
- Values, *A Vedanta Kesari Presentation*, Sri Ramakrishna Math, Chennai, 1996.

- Swami Vivekananda, *Youth and Modern India*, Ramakrishna Mission, Chennai.
- Swami Vivekananda, *Call to the Youth for Nation Building*, Advaita Ashrama, Calcutta.
- *Awakening Indians to India*, Chinmayananda Mission, 2003.

**Course-A Study of Eastern And  
Western Aesthetics-II**

**Code-FA-D&P-CC-201**

**Course Objectives:**

- To introduce the students about gradual shift in Art and its various forms
- To develop critical understanding of Indian Vedic philosophy and Literature and its relevance to Art
- To develop a keen insight into the Contribution of Indian and Western philosophy in development of Art

**Course Level Learning Outcomes:**

On the completion of the Course, the Students shall be able to:-

- Understand the major artistic styles and genres of western and Indian art and architecture through a broad range of time periods to present
- Develop critical Understanding of Indian Vedic philosophy and Literature and its relevance to Art
- Develop an understanding about contribution of Indian and Western philosophy

**Course Description :**

**Unit-I**

Croche, George Santayana, S.K.langer

**Unit-II**

I.A. Richards, Roger Fry

**Unit-III**

Natyashastra, Ras-Sidhant

**Unit-IV**

Vatsayayana, Vishnudharmotar Puran

**Unit-V**

Shaiv, Budha, RavindranathTagore, A.K. Kumaraswami

**Assessment And Evaluation**

|                              |  |     |     |
|------------------------------|--|-----|-----|
| <b>Internal Assessment –</b> | Midterm Examination                            | 10% |     |
|                              | Term Paper                                     |     | 10% |
|                              | Students Participation and overall performance |     | 5%  |

**External Assessment- 75%**

**Terminal Examination**

**Time: 3 Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings:**

- चतुर्वेदी ममता, *सौंदर्यशास्त्र*—राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर, 17 वाँ संस्करण, 2020।
- Kumaraswami, A.K., *Christian And Oriental Philosophy of Art*, Dover Publications 2011.
- Gaunt, William, *Aesthetics Adventure*, West Richard, 1945
- Gillbert, Katherine, *History of Aesthetics, The journal of Aesthetics and Art Criticism* Volume -1, 1941

**Suggested Readings:**

- Gillbert, K.G., *History of Western Aesthetics* New York: The Macmillan Co 1939.
- Pandey, K.C., *History of Western Aesthetics*, The Chowk jhamba Sanskrit Series Office 1972.
- Pandey, K.C., *History of Oriental Aesthetics*, The Journal of Aesthetics and Art Criticism.

**Course -History of Indian Art -II**

**Code-FA-D&P-CC-202**

**Course Objectives**

- To know about prominent art styles in various Ages

- To compare contemporary works with their historical antecedents
- To gain effective knowledge of visual arts

#### Course Level Learning Outcomes:

On the completion of the course the students shall be able to:-

- Reflect on art and write critiques about art styles
- Demonstrate on functional knowledge of the traditions, conventions and evolutions of the discipline related to issues of illusion, meaning and representation.
- Synthesize the use of drawing and generate novel ideas

#### Course Discription

##### Unit-I

Patna Style, Raja Ravi Verma, Amrita Shergill

##### Unit-II

Renaissance, Bengal School

##### Unit-III

Ravindranath Tagore, Avnindranath Tagore, Nand Lal Bose

##### Unit-IV

Bombay Group of Art, N.S. Bendre, K.K. Hebber, S. Chavda

##### Unit-V

Contemporary Artists, M.F. Hussain, K.H. Ara, F.N. Suja, Ram Gopal Vijayvargiya

#### Assessment And Evaluation

|                              |  |     |     |
|------------------------------|--|-----|-----|
| <b>Internal Assessment –</b> | Midterm Examination                            | 10% |     |
|                              | Term Paper                                     |     | 10% |
|                              | Students Participation and overall performance |     | 5%  |

**External Assessment- 75%**

#### Terminal Examination

**Time: 3Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

#### Required Readings:

- प्रताप शीता, भारतीय चित्रकला एव मूर्तिकला का इतिहास, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर, 2021
- Percy Brown, *Indian Painting*, Read Books, 2007
- Galbraith, *Indian Painting*, Houghton Mifflin, 1968
- Stella Kramrisch, *The Art of India*, Phaidon Press, 1965

#### Suggested Readings:

- Brown Percy, *Indian Painting*, Association Press, Calcutta, 1920
- Randhava M.S., *Indian Painting*, Roli Books, 1981
- Kramrisch Stella, *The Art of India*, Edition -3, Phaidon Press, 1965
- Galbraith, *Indian Painting*, Houghton Mifflin, 1968

**Course -Landscape (Coloured)**  
**Code-FA-D&P-CC-203**

#### Course Objectives

- To understand the study part of Objects, Lives and Still Life
- To develop the observation power in a very personalized manner
- To familiarize the student with characteristics of the subject such as ratio, nature, proportion, shape, perspective, comprehension

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Understand the study part of objects, lives and still life
- Develop an observation and learn to include it in drawing
- Understand detail characteristics of art forms such as ratios, nature, proportion, shape, perspective, comprehension

**Course Description**

Students shall work on Landscape, Study from Nature, Street scapes and a City Scape with Historical Monuments. Importance must be given to proportion- aerial and linear perspective, Students shall develop the skill of proper handling and treatment of media

**Assessment and Evaluation**

Internal Assessment- \*Submission Work- 20%  
External Assessment- 80%

**Terminal Examination**

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size of paper-1/2 Imperial**

**Medium-Oil Colour, Water Colour or Tempra**

**\*Submission work:-**

The Submission work shall include the following:

III. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.

IV. The student will have to prepare a sketch book containing not less than 50 sketches. Paper, Pencil or Colour Sketches of Human, Animal, Study of trees, Lanes, Human faces & Body parts etc.

III- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course- Portrait Study (Coloured)**

**Code-FA -D&P-CC-204**

**Course objectives:**

- To familiarize the students about preparation of portrait from life and its transformation into composition
- To encourage the students generate original ideas, communicate the contexts and concepts
- To enable the student, develop independent artistic thinking and aptitude for a rigorous studio practice

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Understand about the portrait from life and its transformation into composition
- Know about the opportunities to develop independent artistic thinking and aptitude for a rigorous studio practice
- Communicate the content, context and process the work visually

**Course Description**

Students shall work on portrait from Model of different age groups showing characteristics, vitality, resemblance, proportion, features etc.

**Assessment and Evaluation**

Internal Assessment- \*Submission Work- 20%  
External Assessment- 80%

**Terminal Examination**

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size-1/2 Imperial**

**Medium- Oil Colour, Watercolour or Tempra**

**\*Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II-The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces & Body parts etc.
- III- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Semester-III****Course- History and Philosophy of Modern Art –I****Code- FA-D&P-CC-301****Course Objectives:**

- To enable the students,develop a critical understanding of modern art and its various movements
- To familiarize the students about role of cultural contexts in shaping the arts

**Course Level Learning Outcomes :**

On the completion of the course the students shall be able to:-

- Develop a critical understanding of History of Modern Art and its relevance and impact on art
- Develop an understanding of Modern Art Movements and its relevance and impact on art
- Learn that Cultural and Social contexts played vital role in shaping the arts

**Course Description:****Unit-I**

The turning point of Art in the 19th century, Neo-classism

**Unit-II**

Romanticism, Realism

**Unit-III**

Impressionism, Neo Impressionism

**Unit-IV**

Nabism , Post-Impressionist Painting

**Unit-V**

Favism, Cubism

**Assessment And Evaluation**

|                              |  |     |     |
|------------------------------|--|-----|-----|
| <b>Internal Assessment –</b> | Midterm Examination                            | 10% |     |
|                              | Term Paper                                     |     | 10% |
|                              | Students Participation and overall performance |     | 5%  |

**External Assessment- 75%**

**Terminal Examination****Time: 3Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings:**

- साखलकर, र.वी., *आधुनिक चित्रकला*, हिन्दी ग्रंथ अकादमी, जयपुर
- प्रताप रीता, *आधुनिक चित्रकला का इतिहास*, हिन्दी ग्रंथ अकादमी, जयपुर
- Cheney, Sheldon, *Story of Modern Art*, Viking books, 1958

**Suggested Readings:**

- Phaidon , *Dictionary of 12 Century Art*, Dutton; 2 dededition 1977
- H.Bars Alfred, *Master of Modern Art*, Museum of Modern Art, New York
- Rewalot John, *History of Impressionism* Museum of Modern Art, 1973

**Course- History of Western Art-I**  
**Code- FA-D&P-CC-302**

**Course Objectives:**

- To enable the students, develop a critical understanding of ancient art forms and its development
- To familiarize the students the prominent art forms and its application part

**Course Level Learning Outcomes :**

On the completion of the course the students shall be able to:-

- Understand the basics of different art forms and concept of beauty and impact of art on human mind.
- Demonstrate artistic and aesthetic sensibilities
- Enhance multiple perspective and cultural and cross-cultural understanding through exploration of visual arts

**Course Description:**

**Unit-I**

Pre-Historic Cave Paintings

**Unit-II**

Art of Egypt, Art of Crete and Mycenae

**Unit-III**

Greek Art-Geometrical Period to Hellenistic Period

**Unit-IV**

Etruscan and Roman Art

**Unit-V**

Early Christian Art, Byzantine Art

**Assessment And Evaluation**

|                              |  |     |     |
|------------------------------|--|-----|-----|
| <b>Internal Assessment –</b> | Midterm Examination                            | 10% |     |
|                              | Term Paper                                     |     | 10% |
|                              | Students Participation and overall performance |     | 5%  |

**External Assessment- 75%**

**Terminal Examination**

**Time: 3Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings:**

- अशोक, पाश्चात्य कला, संजय पब्लिकेशन, मेरठ
- चतुर्वेदी, ममता, पाश्चात्य कला का इतिहास, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर
- साखलकर र.वि., युरोपीय चित्रकला का इतिहास, हिन्दी ग्रंथ अकादमी, जयपुर

**Suggested Readings:**

- Gombrich E.H., *The Story of Art*, Phaidon Press, 1950
- Kuhn.H., *The Rock Pictures of Europe*, FairLawn, 1956
- Sowell Johnlay, *The History of Western Art*, Department of the History of Art and Architecture, Fall Term, University of Pittsburgh, 2001
- Levey Michaese, *A History of Western Art*, Thames and Hudson, 1968

**Course -Composition(Figurative)**

**Code-FA-D&P-CE-303A**

**Course objectives:**

- To enable the students, develop a critical and artistic temperament and use materials tools and processes from variety of media.

- To enable the students, develop independent artistic thinking and aptitude for a rigorous studio practice
- To know understanding of art theory by applying practical methodology to the task

#### Course Level Learning Outcomes:

On the completion of the course the students shall be able to:-

- Develop personal approach to visualization, conceptualization and art making
- Ability to explore diversity of conceptual and aesthetic approaches, styles and techniques.
- Create art work and write critiques about art after visiting museums, galleries, and artist studio

#### Assessment and Evaluation

Internal Assessment- \*Submission Work- 20%  
External Assessment- 80%

#### Terminal Examination

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination..

**Size-1/2 Imperial**

**Medium- Charcoal, Graphite, Black ink**

#### \*Submission work: -

The Submission work shall include the following:

- 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces & Body parts etc.
- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course-Print Making (Leno)**

**Code-FA-D&P-CE-303B**

#### Course objectives:

- To familiarize students about basic techniques in relief printing Lino
- To familiarize the students about techniques of various print making

#### Course Level Learning Outcomes:

On the completion of the course the students shall be able to:-

- Understand about basic techniques in relief printing Lino
- know and identify about techniques of various print making

#### Assessment and Evaluation

Internal Assessment- \*Submission Work- 20%  
External Assessment- 80%

#### Terminal Examination

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size-1/2 Imperial**

**Medium- Black ink**

#### \*Submission work: -

The Submission work shall include the following:

- 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces & Body parts etc.
- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course-Nature Study (Monochrome)**

**Code-FA-D&P-CE-304A**

#### Course objectives:

- To developed the sense of structure study, from any kind of forms in nature such as pots, plants, flowers insects, shells etc
- To understand how these forms achieve their structural unity through adherence to principles with physical nature of the material being observed and studied through various rendering media and techniques in various light conditions.
- To experience the method of using transparent colours by studying nature.

#### **Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Develop the sense of observation in structure study, from any kind of forms in nature such as pots, plants, flowers insects, shells etc
- Demonstrate mastery of elements of designs
- Create a series of original work of art with conceptual and procedural clarity

#### **Assessment and Evaluation**

Internal Assessment- \*Submission Work- 20%  
External Assessment- 80%

#### **Terminal Examination**

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

#### **Size-1/2 Imperial**

**Medium- Charcoal, Graphite, Black ink**

#### **\*Submission Work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces & Body parts etc.
- III- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

#### **Course -Creative Still Life (Monochrome)**

**Code-FA-D&P-CE-304B**

#### **Course objectives:**

- To enable the student study the still life in monochrome
- To analysis of objects a line, from plane and light
- To familiarize the students transformation of objects into variety of simple and complex planes, tones and organization.

#### **Course Level Learning Outcomes:**

On the completion of the course the students shall be able to: -

- Apply Still life in Monochrome
- Analyse objects of line, from plane and light
- Apply transformation of the objects into variety of simple and complex planes, tones and organization

#### **Assessment and Evaluation**

Internal Assessment - \*Submission Work-20%  
External Assessment - 80%

#### **Terminal Examination**

**Time 10 Hours.**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size-1/2 Imperial  
Medium- Charcoal, Graphite, Black ink**

**\*Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper, Pencil or Colour Sketches' of Human, Animal, Study of trees, Lanes, Human faces & Body parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course – Life Study (Monochrome)**

**Code- FA-D&P-CC-304C**

**Course objectives:**

- To enable the student, know about preparation of portrait from life and its transformation into composition
- To familiarize the students about human anatomy and drawing
- To enable student, understand about basic drawing skills-gesture, proportion, foreshortening and artistic anatomy

• **Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Understand about the portrait from life and its transformation into composition
- Demonstrate an ability to draw human figure through observation
- Focus on different aspects and techniques of Model and Skelton

**Course Description**

Students shall work on portrait from Model of different age groups showing characteristics, vitality, resemblance, proportion, features etc.

**Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%

External Assessment- 80%

**Terminal Examination**

**Time: 10 hours**

Four session of 2.5 hours in two consecutive days. Two sittings every day with a break of half an hour in between. The Examiner will send in instruction paper to the Head or coordinator Envelops opened 24 hours before scheduled date of Examination.

**Size-1/2 Imperial  
Medium- Charcoal, Graphite, Black ink**

**\*Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper, Pencil or Colour Sketches' of Human, Animal, Study of trees, Lanes, Human faces & Body Parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Open Elective Courses**

**Course-2D Design (Monochrome)**

**Code-FA-D&P-OE-305A**

**Course objectives:**

- To enable the students, know of various types of objects and compose them into flat a pictorial image.
- To enable the students, develop understanding of interrelationship between different shapes and forms
- To familiarize the students Handling of various types of materials for design organization 2D Design such as: Pencil & Pen

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Learn about various types of objects and compose them into flat and pictorial image
- Understand the interrelationship between different shapes and forms
- Understand the handling of various types of materials for design organization 2D Design such as:  
Pencil & Pen

#### Assessment and Evaluation

Internal Assessment- Submission Work- 20%  
External Assessment- 80%

#### Terminal Examination

**Time: 10 hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size-1/2 Imperial**

**Medium- Charcoal, Graphite, Black ink**

#### \*Submission work:-

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper, Pencil or Colour Sketches of Human, Animal, Study of trees, Lanes, Human faces & Body parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course: Rendering (Monochrome)**

**Code:FA-D&P-OE-305B**

#### Course objectives:

- To familiarize the students various types of objects their traits and draw them
- To develop the students understanding of interrelationship between different shapes and forms
- To understand the handling of various types of materials for design organization and rendering such as: Pencil & Pen

#### Course Level Learning Outcomes :

On the completion of the course the students shall be able to:-

- Study of various types of objects and apply them into flat or pictorial images
- Develop an Understanding of interrelationship between different shapes and forms
- Develop a handling of various types of materials for design organization and rendering such as:  
Pencil & Pen

#### Assessment and Evaluation

Internal Assessment- Submission Work- 20%  
External Assessment- 80%

#### Terminal Examination

**Time 10Hours.**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

**Size-1/2 Imperial**

**Medium- Charcoal, Graphite, Black ink**

#### \*Submission work: -

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper, Pencil or Colour Sketches of Human, Animal, Study of trees, Lanes, Human faces & Body Parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Semester-IV**

**Course- History and Philosophy of Modern Art –II**  
**Code- FA-D&P-CC-401**

**Course Objectives**

- To familiarize the student about the development of modern art
- To familiarize the students with the prominent artists and their seminal works
- To enable the student understand the nuances in the field of modern art

**Course Level Learning Outcomes :**

On the completion of the course the students shall be able to:-

- Develop a critical understanding of History of Modern Art and its relevance and impact on art and culture
- Develop a critical understanding of Modern Art Movements and its relevance and impact on Art, Culture and Society
- Apply nuances in their works

**Unit-I**

Expressionism, Constructivism

**Unit-II**

Other significant post cubistic movement

**Unit-III**

Metaphysical Painting, Dadaism

**Unit-IV**

Surrealism, Abstract Art

**Unit-V**

Significant Contemporary Movement

**Assessment and Evaluation**

|  |  |     |            |
|--|--|-----|------------|
| <b>Internal Assessment –</b>                         | Midterm Examination                            | 10% |            |
|  | Term Paper                                     |     | 10%        |
|  | Students Participation and overall performance |     | 5%         |
| <b>External Assessment-<br/>Terminal Examination</b> |  |     | <b>75%</b> |

**Time: 3Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings**

- साखलकर, र.वी., *आधुनिक चित्रकला*, हिन्दी ग्रंथ अकादमी, जयपुर
- प्रताप शीता, *आधुनिक चित्रकला का इतिहास*, हिन्दी ग्रंथ अकादमी, जयपुर
- Cheney, Sheldon, *Story of Modern Art*, Viking books, 1958

**Suggested Readings**

- Phaidon , *Dictionary of 12 Century Art*, Dutton;2 nd edition 1977
- H.Bars Alfred, *Master of Modern Art* ,Museum of Modern Art, New York
- Rewalot John, *History of Impressionism*, Museum of Modern Art, 197

**Course- History of Western Art–II**

**Code- FA-D&P-CC-402**

**Course Objectives**

- To enable the students, develop a critical understanding of Western art from the 18<sup>th</sup> century onwards
- To familiarize the students some of the prominent artists of the West and their artistic works
- To Introduce the students Modern Western Art

**Course Level Learning Outcomes :**

On the completion of the course the students shall be able to:-

- Develop a critical understanding of History of Western Art and its relevance and impact on art.
- Develop a critical understanding of Western Art Movements and its relevance and impact on art.
- Trace the development of Modern Western art from the 18<sup>th</sup> century to 20<sup>th</sup> century

**Unit-I**

Romanesque Art, Gothic Art

**Unit-II**

Early Renaissance period in Western Art

**Unit-III**

High Renaissance Period in Western Art

**Unit-IV**

Baroque Art-Classical, Baroque Art of France

**Unit-V**

British Painting Baroque Art, Rococo Art

**Assessment and Evaluation**

|                              |  |     |     |
|------------------------------|--|-----|-----|
| <b>Internal Assessment –</b> | Midterm Examination                            | 10% |     |
|                              | Term Paper                                     |     | 10% |
|                              | Students Participation and overall performance |     | 5%  |

**External Assessment- 75%**

**Terminal Examination**

**Time: 3Hours**

The Question paper shall contain three sections. Section A shall contain 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answer should not exceed 50 words each. Section B shall contain 5 questions one from each unit with internal choice. Each question shall be of 6 marks. The answer should not exceed 200 words each. The candidate is required to answer all the questions. Section C shall contain 5 questions to 10 marks each, one from each unit. The candidate is required to answer any three questions. The answer should not be more than 500 words each.

**Required Readings**

- अशोक, पाश्चात्य कला, संजय पब्लिकेशन, मेरठ
- चतुर्वेदी, ममता, पाश्चात्य कला का इतिहास, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर
- साखलकर र.वि., युरोपीय चित्रकला का इतिहास, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर
- Gombrich E.H., *The Story of Art*, Phaidon Press, 1950

**Suggested Readings**

- Kuhn. H., *The Rock Pictures of Europe*, FairLawn, 1956
- Sowell Johnlay , *The History of Western Art*, Department of the History of Art and Architecture, Fall Term, University of Pittsburgh, 2001
- Levey Michaese, *A History of Western Art*, ThamesandHudson, 1968

**Core Elective Courses**

**Course -Composition(Non-Figurative)**

**Code-FA-D&P-CE-403A**

**Course objectives:**

- To enable the students, develop a critical and artistic temperament.
- To enable the students, develop independent artistic thinking and aptitude for a rigorous studio practice

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Develop personal approach to visualization, conceptualization and art making

- Develop an ability to explore diversity of conceptual and aesthetic approaches, styles and techniques

#### **Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%

External Assessment- 80%

#### **Terminal Examination**

##### **Time: 10 Hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24hoursbefore the scheduled date of Examination.

#### **Size-1/2 Imperial**

#### **Medium- Oil Colour ,Watercolour or Tempra**

##### **\*Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces &Body parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

#### **Course-Print Making (wood)**

#### **Code-FA-D&P-CE-403B**

##### **Course objectives:**

- To familiarize the students, basic techniques in relief printing Lino
- To enable the students, know about techniques of various print making

##### **Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Understand about basic techniques in relief printing Lino
- Know and identify about techniques of various print making
- Apply various techniques in print making

#### **Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%

External Assessment- 80%

#### **Terminal Examination**

##### **Time: 10 Hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination

#### **Size-1/2 Imperial**

#### **Medium- Black ink**

##### **\*Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces &Body parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

#### **Course-Nature Study (Coloured)**

#### **Code-FA-D&P-CE-404A**

##### **Course objectives:**

- To enable the students, develop a sense of structure study, from any kind of forms in nature such as pots, plants, flowers insects, shells etc
- To enable the students, understand 'how these forms achieve their structural unity through adherence to principles with physical nature of the material being'

- To familiarize the students, through various rendering media and techniques in various light conditions
- To enable the student experience the method of using transparent colours by studying nature

#### **Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Develop the observation and the sense of structure study, from various kind of forms in nature such as pots, plants, flowers insects, shells etc
- Develop an understanding 'how these forms achieve their structural unity through adherence to principles with physical nature'
- Apply rendering Media and Techniques

#### **Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%

External Assessment- 80%

#### **Terminal Examination**

##### **Time: 10 Hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour inbetween. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24hoursbefore the scheduled date of Examination.

#### **Size-1/2 Imperial**

#### **Medium- Oil Colour ,Watercolour or Tempra**

##### **\*Submission work:-**

The Submission work shall include the following:

- 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human, Animal, Study of trees, Lanes, Human faces & Body Parts etc.
- The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

#### **Course -Creative Still Life (Coloured)**

#### **Code-FA-D&P-CE-404B**

##### **Course objectives:**

- To familiarize the students Still life in monochrome
- To familiarize the student, analysis of objects a line, from plane and light
- To enable the student transformation of the objects into variety of simple and complex planes, tones and organization.

#### **Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Study of still life in monochrome
- Analyse objects of line, from plane , light and various shapes & dimensions
- Transform as the objects into verity of simple and complex planes, tones and organization in their drawings

#### **Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%

External Assessment- 80%

#### **Terminal Examination**

##### **Time: 10 Hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between.The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24 hours before the scheduled date of Examination.

#### **Size-1/2 Imperial**

#### **Medium- Oil Colour ,Watercolour or Tempra**

##### **\*Submission work:-**

The Submission work shall include the following:

- 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces & Body parts etc.

- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course –Life Study (Coloured)**  
**Code- FA-D&P-CC-404C**

**Course objectives:**

- To enable the students about preparation of portrait from life and its transformation into composition
- To understand the students Learn human anatomy and drawing
- To enable the students develop independent artistic thinking and aptitude for a rigorous studio practice

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Understand about the portrait from life and its transformation into composition
- Know about the human anatomy and drawing
- Know about the opportunities to develop independent artistic thinking and aptitude for a rigorous studio practice

**Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%  
External Assessment- 80%

**Terminal Examination**

**Time: 10 Hour**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24hours before the scheduled date of Examination.

**Size-1/2 Imperial**  
**Medium- Oil Colour ,Watercolour or Tempra**

**\*Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces & Body parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Open Elective Courses**

**Course-2D Design (Coloured)**  
**Code-FA-D&P-OE-405A**

**Course objectives:**

- To enable the students study of various types of objects them into flat a pictorial image.
- To develop on understanding of interrelationship between different shapes and forms Handing of various types of materials for design organization 2D Design such as: coloured

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Study of various types of objects them into flat a pictorial image.
- Understand the interrelationship between different shapes and forms
- To develop skills in handing of various types of materials for design organization 2D Design such as: coloured

**Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%  
External Assessment- 80%

**Terminal Examination**

**Time: 10 Hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24hours before the scheduled date of Examination.

**Size-1/2 Imperial  
Medium- Oil Colour ,Watercolour or Tempra**

**\*Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human , Animal , Study of trees , Lanes , Human faces & Body parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Course: Rendering (Coloured)**

**Code:FA-D&P-OE-405B**

**Course objectives:**

- To enable the students various types of objects them into flat a pictorial image.
- To familiarize the students interrelationship between different shapes and forms
- To acquaint the students handling of various types of materials for design organization

**Course Level Learning Outcomes:**

On the completion of the course the students shall be able to:-

- Develop skills of various types of presentation and rendering
- Develop an understanding of interrelationship between different shapes and forms
- Apply handling of various types of materials for design organization and rendering such as coloured and pencil

**Assessment and Evaluation**

Internal Assessment- \* Submission Work- 20%

External Assessment- 80%

**Terminal Examination**

**Time: 10 Hours**

Four sessions of 2.5 hours in two consecutive days. There shall be two sittings every day with a break of half an hour in between. The Examiner will send instruction paper to the Head or coordinator. Envelops shall be opened 24hours before the scheduled date of Examination.

**Size-1/2 Imperial**

**Medium- Oil Colour ,Watercolour or Tempra**

**.Submission work:-**

The Submission work shall include the following:

- I. 5 Sheets will be offered to each candidate and he/she will execute the task given in the prescribed medium.
- II. The student will have to prepare a sketch book containing not less than 50 sketches. Paper , Pencil or Colour Sketches' of Human, Animal, Study of trees, Lanes, Human faces & Body parts etc.
- III. The files of the above-mentioned tasks are to be submitted to the department at least 15 days before the commencement of Examination.

**Blended Learning**

Blended Learning is a pedagogical approach that combines face-to-face classroom methods with computer-mediated activities in the process of teaching and learning. It has been decided that blended learning be taken recourse to only if such need arises (unfortunately). To face such a situation, the teacher be kept in a ready to use mode. Hence, only 10% teaching be done through blended learning after deliberations of the departmental level.

**Keywords**

- ❖ LOCF
- ❖ NEP-2020
- ❖ Blended Learning
- ❖ Face to face (F to F) Learning
- ❖ Programme Outcomes

- ❖ Programme Specific Outcomes
- ❖ Course-level Learning Outcomes
- ❖ Postgraduate Attributes
- ❖ Learning Outcome Index
- ❖ Formative Assessment and Evaluation
- ❖ Comprehensive and Continuous Evaluation

#### **References**

- ❖ National Education Policy-2020.  
[https://www.education.gov.in/sites/upload\\_files/mhrd/files/NEP\\_Final\\_English\\_0.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf)
- ❖ The draft subject specific LOCF templates available on UGC website.  
[https://www.ugc.ac.in/ugc\\_notices.aspx?id=MjY5OQ==](https://www.ugc.ac.in/ugc_notices.aspx?id=MjY5OQ==)

Draft Blended Mode of Teaching and Learning: Concept Note available on UGC website.  
[https://www.ugc.ac.in/pdfnews/6100340\\_Concept-Note-Blended-Mode-of-Teaching-and-Learning.pdf](https://www.ugc.ac.in/pdfnews/6100340_Concept-Note-Blended-Mode-of-Teaching-and-Learning.pdf)

# Course Curriculum

For

## **M.Com. (Business Management)**

(Faculty of Commerce and Management)

**M.Com. BM Semester I, II (2021-22)**

**M.Com. BM Semester III, IV (2022-23)**



**MAHARAJA GANGA SINGH UNIVERSITY**

**BIKANER - RAJASTHAN**

## Background

Considering the curricular reforms as instrumental for desired learning outcomes, all the academic Department of Maharaja Ganga Singh University made a rigorous attempt to revise the curriculum of postgraduate programmes in alignment with National Education Policy-2020 and UGC Quality Mandate for Higher Education Institutions-2021. The process of revising the curriculum could be prompted with the adoption of "Comprehensive Roadmap for Implementation of NEP". The roadmap identified the key features of the Policy and elucidated the Action Plan with well-defined responsibilities and indicative timeline for major academic reforms.

The process of revamping the curriculum started with the series of webinars and discussions conducted by the University to orient the teachers about the key features of the Policy, enabling them to revise the curriculum in sync with the Policy. Proper orientation of the faculty about the vision and provisions of NEP-2020 made it easier for them to appreciate and incorporate the vital aspects of the Policy in the revised curriculum focusing on creating holistic, thoughtful, creative and well-rounded individuals equipped with the key 21st century skills 'for the development of an enlightened, socially conscious, knowledgeable, and skilled nation'.

With NEP-2020 in background, the revised curricula articulate the spirit of the Policy by emphasising upon- integrated approach to learning; innovative pedagogies and assessment strategies; multidisciplinary and cross-disciplinary education; creative and critical thinking; ethical and Constitutional values through value-based courses; 21st century capabilities across the range of disciplines through life skills, entrepreneurial and professional skills; community and constructive public engagement; social, moral and environmental awareness; Organic Living and Global Citizenship Education (GCED); holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning; exposure to Indian knowledge system, cultural traditions and classical literature through relevant courses offering 'Knowledge of India'; fine blend of modern pedagogies with indigenous and traditional ways of learning; flexibility in course choices; student-centric participatory learning; imaginative and flexible curricular structures to enable creative combination of disciplines for study; offering multiple entry and exit points, alignment of Vocational courses with the International Standard Classification of Occupations maintained by the International Labour Organization; breaking the silos of disciplines; integration of extra-curricular and curricular aspects; exploring internships with local industry, businesses, artists and crafts persons; closer collaborations between industry and higher education institutions for technical, vocational and science programmes; and formative assessment tools to be aligned with the learning outcomes, capabilities, and dispositions as specified for each course. The University has also developed consensus on adoption of Blended Learning with 10% component of online teaching and 90% face to face classes for each programme.

The revised curricula of various programmes could be devised with concerted efforts of the Faculty, Heads of the Departments and Deans of Schools of Study. The draft prepared by each department was discussed in series of discussion sessions conducted at Department, Faculty and the University level. The leadership of the University has been a driving force behind the entire exercise of developing the uniform template and structure for the revised curriculum. The

Vice Chancellor of the University conducted series of meetings with Heads and Deans to deliberate upon the vital parameters of the revised curriculum to formulate a uniform template featuring Background, Programme Outcomes, Programme Specific Outcomes, Postgraduate Attributes, Structure of Masters Course, Learning Outcome Index, Semester-wise Courses and Credit Distribution, Course-level Learning Outcomes, Teaching-Learning Process, Blended Learning, Assessment and Evaluation, Keywords, References and Appendices. The experts of various Boards of Studies and Faculties contributed to a large extent in giving the final shape to the revised curriculum of each programme.

To ensure the implementation of curricular reforms envisioned in NEP-2020, the University has decided to implement various provisions in a phased manner. Therefore, the curriculum may be reviewed annually so as to gradually include all relevant provisions of NEP-2020.

## M.Com. Business Management Programme Details

### Programme Outcomes (POs):

With the vision “to nurture the young brains, to make them better employable and socially responsible citizens by encapsulating them with the right set of knowledge for a better tomorrow”, Faculty of Commerce (Business Management) focuses on building conviction with impartiality and modesty, create an enabling environment for innovative thought processes and nurture open-mindedness, equitability and perseverance. The M. Com Business Management programme aims to provide the following Programme Outcomes:

| PO  | Description   |
|-----|---|
| PO1 | Advance the knowledge of business and the techniques of managing the business with special focus on Business Administration.                            |
| PO2 | Ability to present one’s candidature for wide range of opportunities in education, research and employment.   |
| PO3 | Impart higher level knowledge and understanding of contemporary trends in commerce.   |
| PO4 | Equip with relevant skills to make them Industry ready and employable.  |
| PO5 | Develop competencies like problem solving skills, communication skills, analytical skills and presentation skills to derive logical conclusions.        |
| PO6 | Developing entrepreneurial skills.  |
| PO7 | Encourage the students to advance a range of generic skills helpful in employment, internships, and social activities                                   |
| PO8 | Inculcating a sense of civic responsibility, corporate social citizenship, moral accountability and dignity of labour leading to a holistic development |

As per the new structure, there are five courses in each semester. Under Choice Based Credit System, students will also study ‘Open Elective’ courses. These courses will be available for students of all programmes, including students of parent department. Students of other Department may choose these courses subject to fulfilling of eligibility of criteria as laid down by the Department. The structure for the groups has been designed with intent to provide advanced level specialization in the respective field.

In the light of augmentation in the field of Business Administration, the overall structure of the course has been changed to widen the scope and depth of the course and inclusion of research paradigms of Business Management stream. Further, the overall structure has been improved to provide an insight of research in commerce and interdisciplinary areas and to facilitate those students aspiring for pursuing research. Few new Courses have been incorporated in this revised course. The concept of Open Elective has been introduced for the first time in the structure as per the University guidelines and courses like Ethics in Business, Entrepreneurship are offered to be relevant to the students of diverse areas disciplines. The content of existing courses too has been revised in terms of including new and relevant topics such as: psychographics, lifestyle and applications, new consumption patterns and positioning. The suggestive readings are provided for the concerned course to provide a better facilitation for self-study by the students. The course has been designed in line with outcome-based approach which requires specification of Course Outcomes and Course Learning Outcomes.

The M.Com Business Management programme structure offers a deep dive into various facet of business management and organizational development by integration of cross-cutting issues relevant to gender, environment and sustainability, human values, professional ethics into curriculum through incorporation of relevant topics such as: Marketing Management- legal aspects of marketing, ethical, social and environmental concerns in product, pricing, distribution and promotion decisions, socially responsible marketing; green marketing, cause relating marketing; social marketing, Global Strategic Management- Ethical and Social considerations in Strategic Management Business Research- Ethics in Business Research, Advertising and Sales Management.

The programme thus aims to provide students with the opportunity to develop and broaden their business management and leadership skills. The curriculum seeks to develop managerial knowledge and strategic agility, providing students with a broader skill set and a fresh perspective and to encourage them to seek out bold, innovative solutions for today’s business and societal challenges.

### **Programme Specific Outcomes (PSOs):**

The M. Com Business Management course serves the needs of academics and prepares students for research and teaching. The course is well received in the industry and for years they have been serving the needs of managerial cadre in business and industry. M. Com Business Management Course offers research in diverse areas of Commerce discipline and has large base of research contribution. Teaching pedagogy is adopted to ensure all round learning for the students. It is an attempt to kindle the sense of responsibility, honesty, conscience, justice, and above all commitment to human values among course participants. This course will help students to:

| <b>PSO</b> | <b>Description</b>   |
|------------|--|
| PSO1       | Be able to develop capability of executing comprehensive knowledge of Business Administration.   |
| PSO2       | Develop an ability to show the importance of Business as a precursor to various market developments.   |
| PSO3       | Develop an ability to engage in reflective and independent thinking by understanding the concepts of Business Management.                        |
| PSO4       | Develop ability to comprehend solution to various problems originating in diverse Business Management areas like Marketing, Human Resources etc. |
| PSO5       | Ability to work both independently as well as in group; learn the art of negotiation and deal effectively with all stakeholders                  |
| PSO6       | Appraise and appreciate strategic implications of local and global changes /developments in the subject area                                     |

## **Post Graduate Attributes:**

The M. Com Business Management course aims to provide an extreme and rigorous base for teaching, research and allied business administration to the participants. The course has been for the students to:

- Develop capability to work independently in diverse projects and ensure detailed study of various facets of Commerce and Business;
- Develop an ability to search for, locate, extract, organize, evaluate, and use or present information that is relevant to a particular business issue;
- Develop capability of lifelong learning (self-paced and self-directed) aimed at personal development and for improving knowledge/skill development and reskilling in all areas of Business Administration.

## Programme Structure:

M.Com. Business Management programme is a two-year course divided into four-semester. For the award of degree, a student will be required to complete the credits as per the University norms.

### Semester Wise Course Details

| Semester I                |                |  |         |          |         |
|---------------------------|----------------|--|---------|----------|---------|
| Paper Type                | Course Code    | Course Name                                | Lecture | Tutorial | Credits |
| Foundation Course         | FCM CBM CF 100 | Management Concepts                        | 3       | 1        | 4       |
| Core Compulsory Courses   | FCM CBM CC 101 | Business Environment                       | 3       | 1        | 4       |
|                           | FCM CBM CC 102 | Business Communication                     | 3       | 1        | 4       |
|                           | FCM CBM CC 103 | Human Resource Management                  | 3       | 1        | 4       |
|                           | FCM CBM CC 104 | Managerial Economics                       | 3       | 1        | 4       |
| Semester II               |                |  |         |          |         |
| Foundation Course         | FCM CBM CF 200 | Human and National Values                  | 3       | 1        | 4       |
| Core Compulsory Courses   | FCM CBM CC 201 | Marketing Management                       | 3       | 1        | 4       |
|                           | FCM CBM CC 202 | Business Research                          | 3       | 1        | 4       |
|                           | FCM CBM CC 203 | Business Laws                              | 3       | 1        | 4       |
|                           | FCM CBM CC 204 | Organisational Theory and Behaviour        | 3       | 1        | 4       |
| Semester III              |                |  |         |          |         |
| Core Compulsory Courses   | FCM CBM CC 301 | Business Ethics                            | 3       | 1        | 4       |
|                           | FCM CBM CC 302 | Training and Development                   | 3       | 1        | 4       |
| Course Elective (Any Two) | FCM CBM CE 303 | Production Management                      | 3       | 1        | 4       |
|                           | FCM CBM CE 304 | Knowledge Management                       | 3       | 1        | 4       |
|                           | FCM CBM CE 305 | Consumer Behaviour                         | 3       | 1        | 4       |
| Open Elective (Any One)   | FCM CBM OE 306 | Entrepreneurship                           | 3       | 1        | 4       |
|                           | FCM CBM OE 307 | Business Statistics                        | 3       | 1        | 4       |
| Semester IV               |                |  |         |          |         |
| Core Compulsory Courses   | FCM CBM CC 401 | Strategic Management                       | 3       | 1        | 4       |
|                           | FCM CBM CC 402 | Project Report and Viva-Voce               | 3       | 1        | 4       |
| Course Elective (Any Two) | FCM CBM CE 403 | Marketing of Services                      | 3       | 1        | 4       |
|                           | FCM CBM CE 404 | Sales and Distribution                     | 3       | 1        | 4       |
|                           | FCM CBM CE 405 | International Business                     | 3       | 1        | 4       |
| Open Elective (Any One)   | FCM CBM OE 406 | Industrial Relations and Compensation Laws | 3       | 1        | 4       |
|                           | FCM CBM OE 407 | Management Information Systems             | 3       | 1        | 4       |

## Learning Outcome Index

### I. Programme Outcomes (PO) and Programme Specific Outcomes (PSO)

|     | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-----|------|------|------|------|------|------|
| PO1 | X    | X    | X    | X    | X    | X    |
| PO2 | X    |      | X    | X    | X    | X    |
| PO3 | X    | X    |      | X    | X    | X    |
| PO4 | X    | X    | X    | X    | X    |      |
| PO5 |      | X    | X    | X    | X    | X    |
| PO6 | X    | X    | X    | X    | X    | X    |
| PO7 | X    | X    | X    |      | X    | X    |
| PO8 | X    |      | X    | X    |      | X    |

### II. Programme Specific Outcomes (PSO) and Core Compulsory Courses (CC)

|      | CC 1 | CC 2 | CC 3 | CC 4 | CC 5 | CC 6 | CC 7 | CC 8 | CC 9 | CC 10 | CC 11 | CC 12 | CC 13 | CC 14 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| PSO1 | X    | X    | X    | X    | X    | X    | X    | X    | X    | X     | X     |       | X     | X     |
| PSO2 | X    |      | X    | X    | X    | X    | X    | X    | X    |       | X     | X     | X     | X     |
| PSO3 | X    | X    | X    | X    | X    | X    | X    | X    | X    | X     |       | X     | X     | X     |
| PSO4 | X    | X    |      | X    | X    | X    | X    | X    | X    | X     | X     | X     | X     | X     |
| PSO5 |      | X    | X    | X    |      | X    | X    |      | X    | X     | X     | X     | X     | X     |
| PSO6 | X    | X    | X    | X    | X    | X    | X    | X    | X    |       | X     | X     | X     | X     |

### III. Programme Specific Outcomes (PSO) and Course Electives Courses (CE)

|      | CE1 | CE2 | CE3 | CE4 | CE5 | CE6 |
|------|-----|-----|-----|-----|-----|-----|
| PSO1 | X   | X   | X   | X   | X   | X   |
| PSO2 | X   |     | X   | X   | X   | X   |
| PSO3 | X   | X   | X   | X   | X   |     |
| PSO4 | X   | X   | X   | X   | X   | X   |
| PSO5 | X   | X   |     | X   | X   | X   |
| PSO6 | X   | X   | X   | X   |     | X   |

## Testing and Evaluation

There will be Internal Assessment for 20 marks and Final Semester-End Examination (external) will be for 75 marks in each course/paper.

### Evaluation

**Internal Assessment:** Midterm Examination – 10 Marks  
Term Paper – 10 Marks  
Students' Participation – 5 Marks

**External Assessment:** 75 Marks

### Semester End Examination Paper Pattern

There shall be three Sections:

- Section A: 10 questions of 1.5 marks each. All questions will be compulsory. Minimum Two questions must be set from each unit.
- Section B: 3 out of 4 questions of 10 marks each have to be attempted in 250 words. One question from each unit to be set.
- Section C: 2 out of 3 Questions / Case study / Applied /Long Answer Type of 15 marks each to be attempted in maximum 500 words. Not more than one question to be set from one Unit.

Unless specifically mentioned in a particular course, the above Scheme of Internal and External Evaluation shall remain constant for all courses.

Questions of section I, II and III are to be answered in 50, 250 and 500 words respectively. The duration of each course examination shall be 3 hours. On the basis of the marks obtained the student shall be awarded SGPA and CGPA on the basis of the formula specified in the CBCS rules.

## Course Wise Content Details for M.Com Business Management Programme

### Semester I: Foundation Course

| <b>FCM CBM CF 100: Management Concepts</b>   |                         |
|--|-------------------------|
| <b>Marks: 100</b>  | <b>Duration: 60 HRS</b> |
| <p><u>Objectives:</u> To help the students gain understanding of the functions and responsibilities of managers. To provide them tools and techniques to be used in the performance of the managerial job. To enable them to analyze and understand the environment of the organization. To help the students to develop cognizance of the importance of management principles</p>   |                         |
| <p><u>Course Outcomes:</u><br/>The successful completion of this course shall enable the learner:<br/>To understand the concepts related to Business. To demonstrate the roles, skills and functions of management. To analyze effective application of management knowledge to diagnose and solve organizational problems and develop optimal managerial decisions. To understand the complexities associated with management of human resources in the organizations and integrate the learning in handling these complexities.</p>      |                         |
| <b>Contents</b>  |                         |
| <b>Unit I</b>  |                         |
| Business Organization: Introduction to business Forms of business organizations. Management: Concept, Management: Art and Science, Management as a Profession, Management V/S. Administration, Management process, Managerial roles & skills, Levels of management.  |                         |
| <b>Unit II</b>   |                         |
| Evolution of Management: Taylor and Scientific Management, Fayol's Administrative Management, Bureaucracy, Hawthorne Experiments and Human Relations, Social System Approach, Decision Theory Approach.  |                         |
| <b>Unit III</b>  |                         |
| Process of Planning, Planning Premises and Forecasting, Decision Making.<br>Organizing: Concept, Forms of Organizational Structure, Combining Jobs: Departmentalization, Span of Control, Delegation of Authority, Authority and Responsibility  |                         |
| <b>Unit IV</b>   |                         |
| Staffing: Concept; Overview of - Manpower Planning, Job Design, Recruitment and Selection, Training & Development, Performance Appraisal.<br>Directing: Concept, Direction and Supervision.<br>Controlling: Concept, Types of Control, Controlling Techniques.   |                         |
| <u>Readings:</u>   |                         |
| <ul style="list-style-type: none"> <li>• Ramaswamy, I. (2011). Principles of Business Management, (8th ed.), Himalaya Publishing House, New Delhi.</li> <li>• Koontz, H, &amp; Weihrich, H (2016). Essentials of Management: An International Perspective (8th ed.), Tata McGraw Hills, New Delhi.</li> <li>• Ghuman, K &amp; Aswathapa, K, (2017). Management concepts and cases (10th ed.), Tata McGraw Hills, New Delhi.</li> <li>• Telsan, M.T. (2016). Industrial and Business Management, (4th ed.), S. Chand, New Delhi.</li> </ul> |                         |

## Semester I: Core Compulsory Courses

| FCM CBM CC 101: Business Environment   |                         |
|--|-------------------------|
| <b>Marks: 100</b>  | <b>Duration: 60 HRS</b> |
| <p><b>Objectives:</b> This course aims to familiarize participants with business environment and evaluate its various components in business decision making. It will provide an analysis and examination of significant contemporary issues and challenges existing throughout business environment arena. Emphasis will be placed upon social and environmental responsibilities to a wide variety of stakeholders, including employees, customers and the public.</p>   |                         |
| <p><b>Course Outcomes:</b><br/>The successful completion of this course shall enable the learner:<br/>To comprehend the nature of business environment and its components. To demonstrate and develop conceptual framework of business environment and outline how an entity operates in a business environment. To understand and analyze various political, technological, socio-cultural and economic environmental factors affecting business.</p>   |                         |
| <p style="text-align: center;"><b>Contents</b></p> <p style="text-align: center;"><b>Unit I</b></p> <p>Concept, Significance and Nature of Business Environment, Components of Business Environment, Internal and External Environment of Business, Concept and Meaning of Environmental Analysis or Scanning, Characteristics of Environmental Analysis, Objectives, Process and Limitations of Environmental Analysis.</p> <p style="text-align: center;"><b>Unit II</b></p> <p>Significance and Elements of Economic Environment, Economic System and Business Environment, Economic Reforms, Liberalization and Privatization.</p> <p style="text-align: center;"><b>Unit III</b></p> <p>Political and Legal Environment of Business, Critical Elements of Political Environment, Role of Government in Business, Fiscal and Monetary Policy.</p> <p style="text-align: center;"><b>Unit IV</b></p> <p>Socio-Cultural Environment, Critical Elements of Socio-Cultural Environment, Problem of Uneven Income Distribution, Social Responsibility of Business, International Environment of Business, International Economic Institutions- IMF, WTO, World Bank and their Importance for business in India.</p> |                         |
| <p><b>Readings:</b></p> <ul style="list-style-type: none"><li>• Sinha, V.C, and Sinha Ritika, Business Environment, Sahitya Bhawan Publishers &amp; Distributors, Agra</li><li>• Cherunilam, Francis Business Environment, Himalaya Publishing House, New Delhi</li><li>• Aswathappa, K. Essentials of Business Environment Himalaya Publishing House, New Delhi</li><li>• सिन्हा, वी. सी. एवं सिंह, पुष्पा, व्यावसायिक पर्यावरण, साहित्य भवन पब्लिशर्स एंड डिस्ट्रीब्यूटर, (प्रा.लि.) लाजपत कुंज, आगरा</li></ul>  |                         |

**FCM CBM CC 102: Business Communication****Marks: 100****Duration: 60 HRS**

**Objectives:** This course is designed to enable students to understand the nature and scope of communication and its implications in the real time business world. Students will be exposed to receptive and productive skills to attain proficiency. They will familiarize the basic writing skills which lay a strong foundation for writing business documents.

**Course Outcomes:**

The successful completion of this course shall enable the learner:

To understand the scope of communication and learn its importance and implication strategies. To recognize and learn the sub-skills of listening and speaking and be able to deliver effectively in the real time contexts. To imbibe the mechanics of writing and use different forms of written communication techniques to make effective internal and external business correspondence. To produce different types of reports with appropriate format, organization and language.

**Contents****Unit I**

Communication – Nature and Scope: Communication – Significance – Process – Types – Flow of Communication – Basic Communication Skills – Verbal and Non-verbal Communication – Formal Vs Informal Communication – Oral and Written Communication – Barriers to effective communication – organizational communication – Strategic implications of modern communication.

**Unit II**

Oral Communication: Listening – Active and Passive Listening – Barriers to effective listening – Strategies for effective listening – Introduction to presentations – Conversations – Role play – JAM – Debate – Extempore – Individual and Group Presentations – Group Discussions – Procedure – participation – Interviews - Business presentations - Addressing large groups – Public Speaking.

**Unit III**

Business Correspondence: Internal Communication – External Communication – Writing a memo – Letter Vs memo – Form and Structure – Circular – Notice – Agenda – Proceedings of meetings – Minutes – Business Letters – Sales Letters – Enquiry – Quotations – Placing orders – Claims – Adjustments – Inviting – Appreciating – Thanking etc. – Writing Emails – Standard Email practices – Email etiquette – Sample Emails.

**Unit IV**

Reports, Proposals and Presentations: Purpose of writing Reports – Format and Style – Types of reports – Regular reports – Factual reports – Survey reports – Feasibility reports – Business presentations – Format – Key elements for winning business proposals – Business presentations – Planning – Preparing – Organizing – Rehearsing – Improving – Visual aids – Nuances of delivery

**Readings:**

- Bovee, C. and Thill, J.V., "Business Communication Today", 11th edition, 2011, Prentice Hall.
- Francis Soundararaj, "Speaking and Writing for Effective Business Communication", 2008, Macmillan.
- RK Madhukar, "Business Communication", 2010, Vikas Publishing House Pvt. Ltd.
- Mallika Nawal, "Business Communication", 2012, Cengage Learning India.
- Meenakshi Raman & Prakash Singh, "Business Communication", 2012, OUP

**FCM CBM CC 103: Human Resource Management**

**Marks: 100**

**Duration: 60 HRS**

Objectives: The objective of the course is to make student aware of the concepts, techniques and practices of Human Resource Management. This course intends to make students understand the applicability of these principles and techniques in Business organizations.

Course Outcomes:

The successful completion of this course shall enable the learner:

To develop the understanding of the concept of human resource management and to understand its relevance in organizations. To develop necessary skill set for application of various HR issues. To analyse the strategic issues and strategies required to select and develop manpower resources. To integrate the knowledge of HR concepts to take correct business decisions.

**Contents**

**Unit I**

Introduction: Meaning, Definition, Nature, Scope, Objectives and Functions of Human Resource Management, Difference between Personnel Management and Human Resource Management. Human Resource Planning: Need, Importance, Objectives and Process of Human Resource Planning.

**Unit II**

Job Analysis: Concept, Process.

Job Design: Concept, Factors Affecting Job Design, Methods and Techniques.

Recruitment, Selection, Placement.

**Unit III**

Induction and Socialization.

Training: Concepts, Needs, Importance, Steps in Training Programme, Methods of Training.

Development: Concepts, Importance, Objectives, Process and Methods, Methods of Development Programme.

**Unit IV**

Performance Appraisal: Meaning, Purpose, Process, Methods and Problems of Performance appraisal, Approaches to Performance appraisal.

Human Resource Management in changing Environment.

Readings:

- Garg Dessler, Human Resource Management, Pearson Education.
- C.B. Mamoria & S.V. Gankar, Personnel Management, Himalaya Publishing House, New Delhi.
- Agarwal & Porwal, Personnel Management, Navyug Sahitya Sadan, Agra.
- Decenzo and Robbins, Human Resource Management-Prentice Hall of India.
- Garry Dessler and Biju Varkkey, Human Resource Management, Pearson Education, New Delhi.
- Michael Armstrong: Handbook of Human Resource Management, Kogan Page.
- V.S.P Rao, Human Resource Management, Text and Cases, Excel Books, New Delhi.

**FCM CBM CC 104: Managerial Economics****Marks: 100****Duration: 60 HRS**

Objectives: The objective of the course is to acquaint students with the basic principles of micro and macroeconomics for developing the understanding of theory of the firm, markets and the macro environment, which would help them in managerial decision-making processes.

Course Outcomes:

The successful completion of this course shall enable the learner:

To describe the nature and scope of managerial economics, demand analysis and growth model of the firm. To learn the techniques of production function and cost analysis. To comprehend the market forms and apply the pricing techniques to determine the price of factors of production.

**Contents****Unit I**

The meaning and scope of Managerial Economics. Economic concepts relevant to the business. Demand and supply, production. Distribution, consumption and consumption function, cost, price Competition, monopoly profit -Optimizations, Margin & Average Elasticity, Micro & Macro Analysis.

**Unit II**

Demand Analysis and Business forecasting. Marketing structure, Factors influencing Demand Elasticity and Demand Level, Demand analysis for various products and situations. Determinants of Demand for durable and non-durable goods, Long run & short-run, derived and autonomous Demand, Industry & firm Demand

**Unit III**

Production function Analysis. Factors of production, laws of production, Stages of production, Concepts of cost and revenue. Break Even point.

**Unit IV**

Pricing Decision: Pricing and output decision under perfect and imperfect competition, oligopoly and monopoly. Pricing methods, products line pricing, specific pricing problems, price problems; price discrimination, price forecasting. Theories of factor pricing: Wages, Rent & Interest.

Readings:

- Managerial Economics - Saraswat, Lodha, Sharma, Kiradoo, Ajmera Book Co., Jaipur.
- Mote V L. & Gupta G. S. Managerial Economics - Concepts and Cases. Tata Mc Graw Hill, New Delhi.
- Rangaragarn C. & Dholakia. H -Macroeconomics, McGraw Hill, New Delhi.
- Varshney R. L. & Maheshwari K. L.: Managerial Economics, Sultan Chand & Sons, New Delhi.
- Salvatore, D. & Rastogi, Siddhartha K. Managerial Economics-Principals and Worldwide Applications. Oxford University Press.
- Branson, William H. Macro Economics Theory and Policy. First East – West Press.
- Koutsiyannis, A. Modern Microeconomics. Macmillan Press Ltd.
- Business Economics-C.M. Choudhary (RBSA Publishers, Jaipur)

## Semester II: Foundation Course

FCM CBM CF 200: Human and National Values

Marks: 100

Duration: 60 HRS

**Objectives:** To inculcate national and human values in the Students. To enable the students imbibe the Indian cultural ethos. To inculcate the spirit of Patriotism so that the Students develop a sense of strong bond with the nation. To enable the Students grow into a citizen possessing civic sense.

**Course Outcomes:**

The successful completion of this course shall enable the learner:  
Attain the civic skills enabling him/her to become a well-behaved citizen of the country. Imbibe and spread the feelings of devotion and dedication.

### Contents

#### Unit I

1. NCC – Introduction, Aims, NCC Flag, NCC Song, NCC Administration, Raising of NCC in Schools/Colleges, NCC: Rank, Honours and Awards, NCC Training, NCC Camps, NCC Examinations, Incentive and Scholarship for Cadets.
2. Importance of Discipline in life, Aims and Merits of Discipline, Problems related to Indiscipline and Solutions.
3. Drill – Definition, Principles of Drill, Bad habits in drill, Words of Command, Drill Movements, Arms Drill, Squad Drill, Guard of Honour, Ceremonial Drill, Guard Mounting.
4. Contribution of NCC in Nation Building.

#### Unit-II

1. Armed Forces – Control Command, Organization of Armed Forces, Weapons of Army, Navy and Air Force, Training institutes, Honours and Awards, Recipients of Param Veer Chakra, Badges of Ranks.
2. Commission in Armed Forces – Recruitment in Armed Forces, Commission in Technical, Non-Technical and Territorial Forces.
3. Weapon Training – 0.22 Rifle, 7.62 Rifle, 7.62 SLR (Self Loading Rifle), 5.56 MM I.N.S.A.S. Rifle, L.M.G. (Light Machine Gun), Stan Machine Carbine, 2" Mortar, Grenade, Pistol, Various types of Firing, Range Procedure and Range Drill.
4. Military History and Geography, Field Craft, Field Engineering, Battle Craft.

#### Unit-III

1. Obstacle Training. Adventure Training, Self Defense, Physical Posture Training.
2. Social Service, Disaster Management, Health and Hygiene, First Aid.
3. Leadership, Personality Development, Decision Making, Motivation, Duty and Discipline, Morale.

#### Unit IV

1. Value system – The role of culture and civilization-Holistic living
2. Balancing the outer and inner – Body, Mind and Intellectual level- Duties and responsibilities
3. Salient values for life- Truth, commitment, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity, and inclusiveness
4. Self-esteem and self confidence
5. Punctuality – Time, task and resource management, Team work
6. Positive and creative thinking.

#### Unit V

1. Universal Declaration of Human Rights
2. Human Rights violations

3. National Integration – Peace and non-violence (in context of Gandhi, Vivekanad)
4. Social Values and Welfare of the citizen
5. The role of media in value building
6. Fundamental Duties
7. Environment and Ecological balance – interdependence of all beings – living and non-living.

Readings:

- Hand Book of NCC: Major R C Mishra & Sanjay Kumar Mishra
- National Security: K. Subramanyam
- ASEAN Security: Air Comdr. Jasjit Singh
- Indian Political System, Dr. Pukhraj Jain & Dr. Kuldeep Fadiya
- हैण्ड बुक ऑफ एनसीसी, मेजर आर. सी. मिश्र एवं संजय कुमार मिश्र
- अन्तर्राष्ट्रीय राजनीति: वी. एल. फाड़िया
- भारतीय राजव्यवस्था, डॉ. पुखराज जैन, डॉ. कुलदीप फड़िया
- राष्ट्रीय प्रतिरक्षा: डॉ. हरवीर शर्मा, जयप्रकाश नाथ कंपनी, मेरठ
- राष्ट्रीय सुरक्षा: डॉ. लल्लन सिंह, प्रकाश बुक डिपो, बरेली
- राष्ट्रीय सुरक्षा: डॉ. नरेन्द्र सिंह, प्रकाश बुक डिपो, बरेली
- राष्ट्रीय सुरक्षा: डॉ. पाण्डेय व पाण्डेय, प्रकाश बुक डिपो, बरेली
- राष्ट्रीय रक्षा व सुरक्षा: डॉ. एस. के. मिश्र, मार्डन पब्लिशर्स, जालंधर
- NCERT, Education in Values, New Delhi, 1992.
- M.G.Chitakra: Education and Human Values, A.P.H. Publishing Corporation, New Delhi, 2003.
- Chakravarthy, S.K.: Values and ethics for Organizations: Theory and Practice, Oxford University Press, New Delhi, 1999.
- Satchidananda, M.K.: Ethics, Education, Indian Unity and Culture, Ajantha Publications, Delhi, 1991.
- Das, M.S. & Gupta, V.K.: Social Values among Young adults: A changing Scenario, M.D.Publications, New Delhi, 1995.
- Bandiste, D.D.: Humanist Values: A Source Book, B.R. Publishing Corporation, Delhi, 1999.
- Ruhela, S.P.: Human Values and education, Sterling Publications, New Delhi, 1986.
- Kaul, G.N.: Values and Education in Independent Indian, Associated Publishers, Mumbai, 1975.
- Swami Budhananda (1983) How to Build Character A Primer: Ramakrishna Mission, New Delhi.
- A Cultural Heritage of India (4 Vols.), Bharatiya Vidya Bhavan, Bombay. (Selected Chapters only) For Life, For the future: Reserves and Remains – UNESCO Publication.
- Values, A Vedanta Kesari Presentation, Sri Ramakrishna Math, Chennai, 1996.
- Swami Vivekananda, Youth and Modern India, Ramakrishna Mission, Chennai.
- Swami Vivekananda, Call to the Youth for Nation Building, Advaita Ashrama, Calcutta.
- Awakening Indians to India, Chinmayananda Mission, 2003.

## Semester II: Core Compulsory Courses

| FCM CBM CC 201: Marketing Management  |                         |
|---|-------------------------|
| <b>Marks: 100</b>   | <b>Duration: 60 HRS</b> |
| <p><b>Objectives:</b> The course aims to familiarize the students with the basic concepts &amp; principles of marketing and to develop their conceptual and analytical skills to be able to manage marketing operations of a business firm.</p>   |                         |
| <p><b>Course Outcomes:</b><br/>The successful completion of this course shall enable the learner:<br/>To familiarize the students with the fundamentals of marketing to enable them to take better marketing decisions. To discuss and make the students understand the nuances and complexities involved in various product and pricing decisions. To equip the students to take effective distribution decisions for products and services. To develop the skills among students to enable them to design the Promotion-Mix strategies advertising campaigns. To make the students aware about the current trends in marketing to enable them to take proactive measures while taking marketing decisions.</p>  |                         |
| <p style="text-align: center;"><b>Contents</b></p> <p style="text-align: center;"><b>Unit I</b></p> <p>Introduction: Market and Marketing; Definition, nature and scope of marketing; Exchange process; Functions of marketing; Evolution of modern marketing concept; Holistic marketing concepts; Selling vs. Marketing; Marketing Mix; 4 A's of Marketing; Customer quality, value and satisfaction.<br/>Marketing Environment: Significance of scanning marketing environment.<br/>Buyer behaviour: Different consumer roles; Need for studying buyer behaviour; Different buying motives; Consumer buying decision process and influences; Consumer vs. business buying behaviour; Industrial buying process.</p> <p style="text-align: center;"><b>Unit II</b></p> <p>Market Segmentation, Targeting and Positioning: Characteristics of a segment; Bases for segmenting a consumer market; Levels of market segmentation; Factors influencing selection of market segments; Benefits of market segmentation; Criteria for effective market segmentation; Target market selection and strategies; Positioning – concept, bases and process.<br/>Product - concept and classification; Layers of products; Major product decisions; Product-Mix; New product development stages; Packaging and labelling; Product life cycle (PLC) – concept and appropriate strategies adopted at different stages</p> <p style="text-align: center;"><b>Unit III</b></p> <p>Pricing – objectives; Price-sensitivity; Factors affecting price of a product; Pricing methods and strategies.<br/>Distribution Decisions: Channels of distribution – concept and importance; Different types of distribution middlemen and their functions; selection, motivation and performance appraisal of distribution middlemen; Decisions involved in setting up the channel; Channel management strategies; Distribution logistics – concept, importance and major logistics decisions; Channel integration.</p> <p style="text-align: center;"><b>Unit IV</b></p> <p>Promotion Decisions: Role of promotion in marketing; Promotion-Mix; Integrated Marketing Communication – Concept; Communication process and promotion; Determining promotion mix; Factors influencing promotion mix.<br/>Trends in Marketing: Service Marketing, e-marketing, Green Marketing, Customer Relationship Management, Rural marketing; Other emerging trends- ethical issues in marketing.</p> |                         |

Readings:

- Kotler, P. & Keller, K. L. (2017). Marketing Management. Pearson
- McCarthy, E. J., Cannon, J. & Perreault, W. (2014). Basic Marketing. McGraw-Hill Education.
- Etzel, M. J., Walker, B. J., Staton, W. J., & Pandit, A. (2010).Marketing Concepts and Cases. Tata McGraw Hill.
- Cundiff, Still, Govani - Fundamentals of Modern Marketing. Pearson
- Ramaswamy-VS. and S. Namakumari, Marketing Management. Macmillan India Ltd.
- R.S.N. Pillai, Modern Marketing Principles and Practices. Baggawati

**FCM CBM CC 202: Business Research****Marks: 100****Duration: 60 HRS**

Objectives: The objective of the course is to acquaint students with the process and techniques of conducting research. The course is expected to train the students to plan and execute the research studies in business.

Course Outcomes:

The successful completion of this course shall enable the learner:

To describe the meaning and role of Business Research. To formulate the research problem and understanding the major research designs. To determine data sources and learn the art of designing a questionnaire. To understand various sampling techniques and develop understanding of data collection and fieldwork. To enable students to analyse data using various techniques and to learn how to communicate the results and follow up.

**Contents****Unit I**

Introduction to Business Research: Meaning and role of business research; Business research philosophies; Scope of business research; Terminology of business research; Organization of business research: Outsourcing and in-house research; Business research process: An overview. Problem Specification: Management problem specification; Formulating research problem.

**Unit II**

Developing research proposal – research objectives, research hypotheses, information needs; Determining research design: Explorative research – major techniques and their evaluation; Descriptive researches – case study, survey method and observation method; Causal research – major experimental designs; Quantitative vs qualitative research.

Determining Data Sources: Secondary data sources and their usefulness; Primary data collection – Observation and questioning methods; Questionnaire preparation; Scaling techniques

**Unit III**

Survey Design: Census and survey methods; Designing sample survey – Defining universe; Determining sampling frame, sampling unit, sampling method and sample size determination. Data collection - organizing fieldwork – selection, training, supervision and evaluation of fieldworkers; Survey errors – sampling vs. non-sampling errors; Types of non-sampling errors and ways to deal with them.

**Unit IV**

Data analysis – Univariate analysis – Bivariate analysis – Multivariate analysis. Simple and cross tabulation, simple and multiple regression, Factor analysis. Cluster analysis, Discriminant analysis. Fallacies of interpretation.

Report writing – forms of report – fundamentals of a good report, Footnotes, Bibliography and Referencing.

Readings:

- Cooper, D. R. & Schindler, P. S. (2003). Business Research Methods. Boston. McGraw-Hill/Irwin
- Wooldridge, J. M. (2001). Econometric Analysis of Cross Section and Panel Data. MIT Press, USA
- J.K. Sachdeva, Business Research Methodology, Himalaya Publishing House, New Delhi
- C. R. Kothari, Research Methodology, Methods & Techniques, New Age International Publications.
- Sharma, J.N. "Research Methodology: The Discipline and its Dimensions" Deep and Deep, New Delhi.

**FCM CBM CC 203: Business Laws****Marks: 100****Duration: 60 HRS**

Objectives: This course is designed to provide the student with knowledge of the legal environment in which a consumer and businesses operates, and to provide the student with knowledge of legal principles and generate awareness of the different business laws and its impact on Business.

Course Outcomes:

The successful completion of this course shall enable the learner:

To appreciate the relevance of business law to individuals and businesses and the role of law in an economic, political and social context. To identify the fundamental legal principles behind contractual agreements. To examine how businesses can be held liable in tort for the actions of their employees. To acquire problem solving basic techniques and to be able to present coherent, concise legal argument.

**Contents****Unit I**

The Indian Contract Act, 1872: Contract – meaning, characteristics and kinds; Essentials of valid contract - Offer and acceptance, consideration, contractual capacity, free consent, legality of objects; Void agreements; Discharge of contract – modes of discharge including breach and its remedies; Contingent contracts; Quasi – contracts; Contract of indemnity and guarantee; Contract of bailment; Contract of agency.

**Unit II**

The Sale of Goods Act, 1930: Contract of sale, meaning and difference between sale and agreement to sell; Conditions and warranties; Transfer of ownership in goods including sale by non-owners; Unpaid seller – meaning and rights of an unpaid seller against the goods and the buyer.

Consumer Protection Act, 2019: Objectives, Definitions and Key features, Consumer Disputes Redressal Commission, Rights of consumer

**Unit III**

The Limited Liability Partnership Act, 2008: Salient features of LLP; Difference between LLP and partnership, LLP and company; LLP agreement; Nature of LLP; Partners and designated partners; Incorporation document; Incorporation by registration; Registered office of LLP and change therein; Change of name; Partners and their relations; Extent and limitation of liability of LLP and partners; Conversion to LLP; Winding up and dissolution.

Negotiable Instruments Act, 1881: Meaning, Features, Kinds of negotiable instruments, Parties to negotiable instruments, Negotiation of instruments, Presentment and Dishonor of negotiable instruments.

**Unit IV**

The Information Technology Act, 2000: Definitions under the Act; Digital signature; Electronic governance; Attribution, acknowledgement and dispatch of electronic records; Regulation of certifying authorities; Digital signatures certificates; Duties of subscribers; Penalties and adjudication; Appellate Tribunal; and Offences.

Intellectual Property Laws: Subject /matter of Intellectual Property; Aim & objectives; Classification of Intellectual Property Rights.

Readings:

- Bare Acts
- Elements of Mercantile Law. N.D. Kapoor, Sultan Chand & Sons

- Business Law. N.D. Kapoor, Sultan Chand & Sons
- Legal Aspects of Business. Akhileshwar Pathak, Tata McGraw Hill
- Business Law. Tejpal Sheth, Pearson
- Business Law. D. Chandra Bose, PHI Learning Private Limited
- Business Law (6th Edition). MC Kuchhal, Vivek Kuchhal, Vikas Publishing
- Mercantile Law (8th Edition) MC Kuchhal, Vivek Kuchhal, Vikas Publishing
- Mercantile Law (3rd Edition). S.S. Gulshan, Excel Books
- Business and Corporate Laws. Prasad, Jai Bharat Publication

**FCM CBM CC 204: Organisational Theory and Behaviour**

**Marks: 100**

**Duration: 60 HRS**

Objectives: To develop theoretical and practical understanding of different components of individual and group behavior in organizational setting.

Course Outcomes:

The successful completion of this course shall enable the learner:

To understand the theoretical development of organizational behaviour and its importance in managing people at the work place. To understand the behaviour of the people as individual and members of the group. To understand the foundation of group dynamics and the nature of conflict and its management. To distinguish between manager, boss and a leader and learn the theories of leadership. To understand different types of organizational structures, organizational climate and to know the importance of organizational culture apart from learning how to deal with change and stress.

**Contents**

**Unit I**

Emergence of organizational behavior; Management and OB; Hawthorne studies and human relations school.

Individual Behavior: Foundations of individual behavior; Perception; Attribution; Personality; Attitude; Learning and Values; Motivation – theoretical and practical dimension.

**Unit II**

Group Behavior: Group dynamics; Cohesiveness and productivity; Group decision making; Managing organizational conflict; Managing misbehavior at work

**Unit III**

Leadership: Influence, Power and Politics; Leadership – theoretical and practical dimension

**Unit IV**

Organization System and Processes: Organization Structure – foundation and types; Climate and Ethos; Organizational effectiveness & performance, Managing change.

Readings:

- Greenberg, Baron (2010). Behaviour in Organisations: Understanding and Managing the Human Side of work. Pearson
- Hegar, Kathryn W. (2011). Modern Human Relations at work, International Edition. Cengage
- Luthans, Fred. Organizational Behaviour, McGraw-Hill, Indian Edition. 12th Ed.
- Pareek, U. & Khanna, S. Understanding Organizational Behaviour. Oxford University Press.
- Robbins, Stephen P., TA Judge & Neharika Vohra (2013). Organisational Behaviour, Pearson.

**M. G. S. UNIVERISTY, BIKANER**

**SYLLABUS**

**SCHEME OF EXAMINATION AND**

**COURSES OF STUDY**

**PGDYN YOGA 2021-22**



**Maharaja Ganga Singh University**

**Bikaner**



# Maharaja Ganga Singh University

C.E.S.D | Center for Entrepreneurship & Skill Development



Center for Entrepreneurship and Skill Development (CESD)

Programme Structure and Codification of Papers

Session- 2021-22

| Paper Code | Post Graduate Diploma in Yoga and Naturopathy                     | Max. Internal Marks | Max. Theory/ Practical (External) Marks | Total Marks |
|------------|---|---------------------|---|-------------|
| PGDYN-1    | Foundation of Yoga  | 25                  | 75                                      | 100         |
| PGDYN-2    | Basics of Naturopathy   | 25                  | 75                                      | 100         |
| PGDYN-3    | Human Anatomy & Physiology  | 25                  | 75                                      | 100         |
| PGDYN-4    | Yogic Management for Diseases                                     | 25                  | 75                                      | 100         |
| PGDYN-P    | Practical   | 50                  | 100                                     | 150         |
| PGDYN-D    | Dissertation/Project Work/ clinical project / case study / & Viva |                     | 50                                      | 50          |
|            | <b>Total of Marks</b>   | <b>150</b>          | <b>450</b>                              | <b>600</b>  |

**Name of the Course:**

Post Graduate Diploma in Yoga and Naturopathy

**Objectives:**

- To cater Professional knowledge and imparting higher education in Yoga and Naturopathy.
- To understand the origin and historical development of Yoga and Naturopathy.
- To impart training and teaching with respect to holistic development of human personality.

**Duration of the Course:**

The Course shall be of One Year duration.

**Scheme of the Papers and Marks Distribution:**

The PGDYN is of one year duration full time annual course. The course will have four theory papers of 100 marks (75 external + 25 internal marks) each, one Practical paper of 150 marks (100 external + 50 internal Marks), & a Dissertation/ Project work/ training/review/clinical project/internship/case study & Viva of 50 marks. Practical paper & Dissertation/ Project work etc, Viva will be evaluated at the end of course by external & internal examiner. An educational tour may be organized for PG diploma students within or outside the State under the supervision of faculty members.

**Scheme of Examination:**

1. English/Hindi shall be the medium of instructions and examination.
2. There will be yearend examination. The yearend examinations, evaluation, publication of results, award of marks statements and award of diploma shall be undertaken by MGS University, Bikaner.
3. The system of evaluation shall be as follows:
  - Each Theory paper will carry 100marks (75marks External + 25marks Internal). The evaluation scheme shall comprise external evaluation of 75 marks and internal evaluation of 25 marks.
  - Practical paper will carry 150 marks (100 External +50Internal).
  - Dissertation/ Project work/training/review/clinical project/internship/case study & Viva of 50 marks.

Any student who fails to participate in classes, viva-voce, practical work & in submitting dissertation/project work etc. will be debarred from appearing in the end of main examination.

4. The duration of written examination for each paper shall be of three hours and Practical examination shall be for one day duration.
5. The minimum attendance required by a candidate will be as per the University rules. With regards to the Dissertation/project/training/review/clinical project/internship/case study, the scheme of evaluation shall be as follows:
6. The candidate has to submit report/thesis/dissertation/case study in a Hard/spiral bound form in three copies and appear in viva which would be evaluated by an External & Internal examiner. Total marks for Project/case studies/training/dissertation/internship shall be -50 marks
7. The candidate has to secure at least 36% marks to pass the examination and 25% marks in each individual paper. Even if he/she fails in one paper/course/practical/dissertation is he/she will be declared fail. He/she however shall be allowed one more chance to appear in the examinations as ex-student. In such a case, the marks of practical's shall be carried forward for the said purpose and as per Maharaja Ganga Singh University rules and regulations.

**Affiliation:**

The Programme shall be governed by the CESD, of Maharaja Ganga Singh University, Bikaner (Raj.)

# Post Graduate Diploma in Yoga and Naturopathy (1 Year)

## Marking Scheme for External

| Paper Code | Theory Papers   | Duration     | Max. Marks |
|------------|---|--------------|------------|
| PGDYN-1    | Foundation of Yoga  | 3 Hrs.       | 75         |
| PGDYN-2    | Basics of Naturopathy   | 3 Hrs.       | 75         |
| PGDYN-3    | Human Anatomy & Physiology                                      | 3 Hrs.       | 75         |
| PGDYN-4    | Yogic management for Diseases                                   | 3 Hrs.       | 75         |
| PGDYN-P    | Practical   |              | 100        |
| PGDYN-D    | Dissertation /Project Work/ clinical project /case study/& Viva | 1 Day (6Hrs) | 50         |

## Detailed Syllabus for Post Graduate Diploma in Yoga and Naturopathy

### PGDYN-1: Foundation of Yoga

#### Instructions to Paper Setters (Theory):

The paper is divided into three units. The question paper will consist of A, B and C sections. A part will consist of ten compulsory questions (at least three questions from each unit) (2 marks each). B part will consist of nine questions (three questions from each unit) and students are required to attempt five questions (5 marks each) selecting at least 1 question from each unit. C part will consist of six questions (2 questions from each unit of syllabus) and students are required to attempt three questions (10 marks each) selecting 1 question from each unit.

#### Unit- I

Historical and mythological aspects leading to the origin of yoga, history and development of yoga, definition of yoga in different yoga text and school of thought. yoga according to different veda and upanishad. general introduction of shat darshan with special reference to yoga.

#### Unit- II

Introduction, meaning and definition of yoga according to patanjali. concept of chitta, chitta bhumi, chitta vritti, chitta vritti nirodhopaya, concept of ishvara, chitta vikshepas (antaryas), chitta prasadanam, type of samadhi

#### Unit- III

Kleshes, kriya yog, panch klesha, ashtanga yoga (yama, niyama, asana, pranayama, prathyahara, dharna, dhayana, samadhi)

### **Suggested reading:**

1. Swami Inanananda- Philosophy of yoga, Shri Ramakrishna Ashram, Mysore
2. Patanjali Yoga Sutra-Dr. Karnbetkar Lonavala.
3. Sing Lalan Prasad. Tantra, concept publishing Company, Delhi – 1976
4. Rajkumari pandey- Bhartiya yoga prampara ke vividha Ayama Radha Publication, Delhi- 1993
5. Fenerstein George. The yoga Tradition: Its History, Literature, philosophy Bhavana Books and prints, Delhi 2002.
6. Patanjali Yog- Pradeep, Omanand Tirth.
7. Yog darshan – Geeta press Gorakhpur

### **PGDYN-2: Basics of Naturopathy**

#### **Instructions to Paper Setters (Theory):**

The paper is divided into three units. The question paper will consist of A, B and C sections. A part will consist of ten compulsory questions (at least three questions from each unit) (2 marks each). B part will consist of nine questions (three questions from each unit) and students are required to attempt five questions (5 marks each) selecting at least 1 question from each unit. C part will consist of six questions (2 questions from each unit of syllabus) and students are required to attempt three questions (10 marks each) selecting 1 question from each unit.

#### **Unit-I**

Definition and principal of naturopathy, historical development of naturopathy, introduction of indian naturopathy, life sketch and contribution of eminent naturopaths- Mahatma Gandhi (father of Indian naturopathy), Vitthal Das Modi, Dr. Lindlhar.

#### **Unit- II**

Introduction of all naturopathy tools, alternative system of therapy- introduction, meaning and various methods, therapy by panch tatva sadhana (aakash, vayu, agani, jal, prathvi), methods of naturopathy: fasting therapy- limitation, method and benefits, deep breathing, breathing practices, morning walk etc

#### **Unit III**

Sun Ray's therapy- limitation, method and benefits, chromo therapy- limitation, method and benefits, colour therapy- limitation, method and benefits, hydro therapy- limitation, method and benefits, mud therapy-limitation, method and benefits, diet according naturopathy

### **Suggested reading:**

1. K.S. Joshi, Speaking of Yoga & Nature- Cure Therapy, Sterling Publishers Private Limited (1991)
2. M.M.Bhamgara: The Human Body: Nature's Amazing Creation, Bipin Parekh, Mumbai (2004)

3. Parakrutik Ayuivijnana- Dr. Jindal- Republication of Kalyana Anka Arogya Seva Prakasham, Modinagar.
4. History and Philosophy of Nature Cure by S.J. Singh
5. Prachina Vangamaya Me Prakrutika Chikitsa-Swami Ananta Bharati, CCRYN, New Delhi.
6. Prakratik chikitsa kai siddant,Dr.Jindal

### **PGDYN-3: Human Anatomy & Physiology**

#### **Instructions to Paper Setters (Theory):**

The paper is divided into three units. The question paper will consist of A, B and C sections. A part will consist of ten compulsory questions (at least three questions from each unit) (2 marks each). B part will consist of nine questions (three questions from each unit) and students are required to attempt five questions (5 marks each) selecting at least 1 question from each unit. C part will consist of six questions (2 questions from each unit of syllabus) and students are required to attempt three questions (10 marks each) selecting 1 question from each unit.

#### **Unit-I**

**Respiratory system-** Definition of respiration, structure and function, mechanism of respiration, exchange of gases, oxygen transportation, and co-transportation of respiration.

**Skeletal system** - Introduction of skeletal system, function of skeletal system. Types of joints, composition of bone, Types of bones, vertebral column of human body.

**Endocrine system** – Endocrine gland – structure , function, secretion , regulation of hormonal secretion, mechanism of action of hormone , Emphasis on physiology of diabetes and stress hormones, physiological functions and abnormalities in secretion of pituitary , thyroid , parathyroid , hormones, adrenal and reproductive hormones. Disorders of endocrine glands .

#### **Unit-II**

**Digestive system** - definition of digestion, structure and function, mechanism of absorption of various product of digestive system control of digestion in various part of alimentary, hormonal control of digestive system.

**Muscular system** - Types of muscles, Theory of contraction, categories of muscles, and properties of muscles.

**Circulatory system-** structure and function of heart and blood vessels, cardiac cycle, regulation of cardiac output, blood pressure and factor affecting it, Hypertension. Blood & lymph- composition of blood, blood cells, function of blood, lymph, composition of lymph & functions

#### **Unit-III**

**Nervous System** – Definitions, Role of Nervous System , Structure of neuron , Type of neuron , Morphological and function , Conduction of nervous system (Brain & Spinal cord) Peripheral nervous system , Autonomic nervous system. Immune System - Definition, types of Immunity

**Excretory System** – Definition , Anatomy & Physiology of Kidneys , Structure and function of nephron , Mechanism of urine formation , Regulation of urine formation Sense organ – Structure & Functions ( Eye , Skin, Ear, Nose and Tongue) Physiology of different sense organ

**Reproductive system** – Definition, Types of Reproductive, male reproductive system, Female reproductive system, menstrual cycle, Changes during Pregnancy.

**Suggested reading:**

1. A Glimpse of Human Body – Dr Shirley Telles.
2. Human Anatomy & physiology – Dr. Vrinda Singh
3. Guyton A.C (1985): Function of Human Body 4th Edition
4. Human Physiology – Chatterjee C.C (1992)
5. Text book of Physiology – Jain A.K.

**PGDYN-4: Yogic management for Diseases**

**Instructions to Paper Setters (Theory):**

The paper is divided into three units. The question paper will consist of A, B and C sections. A part will consist of ten compulsory questions (at least three questions from each unit) (2 marks each). B part will consist of nine questions (three questions from each unit) and students are required to attempt five questions (5 marks each) selecting at least 1 question from each unit. C part will consist of six questions (2 questions from each unit of syllabus) and students are required to attempt three questions (10 marks each) selecting 1 question from each unit.

**Unit- I**

A Comprehensive study of the definition, classification, types, sign, symptom and yoga therapy for diseases of the following system through IAYT (integrated approach of yoga therapy) & Panch Kosha:

**Respiratory system-** Nasal Allergy and Asthma.

**Cardiovascular system-** Hypertension and coronary artery diseases, Psychiatry Anxiety, depressive neurosis, Insomnia, phobia, OCD (Obsessive).

**Unit-II**

A Comprehensive study of the definition, classification, types, sign, symptom and yoga therapy for diseases of the following system through IAYT (integrated approach of yoga therapy) & Panch Kosha:

**Digestive system-** hyperacidity, Irritable bowel syndrome constipation, Gas (Flatulence).

**Musculo-skeletal system -** Arthritis, Back pain, Ankylosing Spondylitis

**Unit III**

A Comprehensive study of the definition, classification, types, sign, symptom and yoga therapy for diseases of the following system through IAYT (integrated approach of yoga therapy) & Panch Kosha:

**Nervous system-**Epilepsy, migraine, Endocrine System- Diabetes, Obesity, Thyroid (Hypo & Hyper), Special senses - Eyes (Error of Refraction).

**Reproductive system-** Infertility, Menstrual disorder, Role of stress in problems of Pregnancy, Menopause.

#### , Reference Books

1. Yoga for common ailments series published by svyp
2. Yoga therapy- by swami kuvalayanand, Lonavala
3. Yoga for different ailments Robin monro, Nagarathna & Nagendra.
4. Light on pranayama B.K.S. Iyenger
5. Bandh & madras swami geetananda.
6. PPH- SVYP Bangalore

#### **PGDYN-P: Practical**

1. Prayers
2. Chanting Vyas Pushpanjali – SVYASA ( Raj Yoga, Bhakti Yoga, Karma Yoga, Gyan Yoga evm Mantra Chanting )
3. Surya Namaskar
4. Asanas ( Basic set of asana followed by S-vyasa )
5. Pranayama ( Anolom-Vilom pranayama ,Cooling Pranayama, Bharamari, Ujjai,Sectional Breathing, )
6. Bandhas & Mudras
7. Shudhi Kiryas ( Shat karma )
8. Meditation - Om Meditation, Nadanusandana
9. Relaxation Technique - IRT,QRT,DRT
10. IAYT for common ailments

#### **PGDYN-D: Dissertation /Project Work/clinical project/ case study & Viva**

Dissertation/Project Work/Training/Clinical project /Case study (Min. 8 to 10 Cases) /Presentation & Viva given from above syllabus.

- Dissertation/project Work submitted by the students as per direction by Teachers.
- Presentation
- Viva

**Suggested reading:**

1. Promotion of Positive health (Dr. H.R.Nagendra)
2. Pranayama (Kala & Vigyan) (Dr. H.R.Nagendra)
3. Vyas Pushpanjali (SVYP) (Dr. H.R.Nagendra)
4. SMET (SVYP, Dr. H.R.Nagendra) For the common ailments all the SVYP, Disease Books

**MAHARAJA GANGA SINGH UNIVERSITY, BIKANER**

# **SYLLABUS**

**SCHEME OF EXAMINATION  
AND  
COURSES OF STUDY**

**FACULTY OF LAW  
B.A. LL.B. 5 YEAR  
INTEGRATED**



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# **B.A. LL.B. 5 YEAR INTEGRATED**

## **(HONOURS COURSE FOR SESSION 2021-22)**

**1 st Year (Semester – I)**

### **Paper 1.1 English Language Skills I**

**Teaching Hrs. L-06**

**Exam Hrs. – 3**

**Total: 100 Marks (Internal 30 External 70)**

#### **Module 1: Phonetics, Word Formation and Punctuation**

- I. Transcription of Phonetic Symbols
- II. Word formation: Roots, Prefixing, Suffixing
- III. Punctuation and Capitalisation

#### **Module 2: Lexical Skills**

- I. Synonyms and Antonyms
- II. One Word Substitution
- III. Confusable Words
- IV. Phrasal Verbs and Idioms

#### **Module 3: Comprehension Skills**

- I. Skimming, Scanning, Intensive Reading and Extensive Reading (The students will be tested through an unseen Comprehensive Passage on Poetry and Prose)
- II. Precise Writing and Summarising

#### **Module 4: Compositional Skills**

- I. Note- Making and Note-Taking
- II. Drafting of Petitions
- III. Essay Writing

#### **Module 5: Legal Terms**

- (a) Legal Terms: Accused, Confession, Dying Declaration, FIR, Complaint, written statement, plaintiff, defendant, appeal, tribunal, divorce, legitimate, illegitimate, adoption, maintenance, alimony, valid void, litigation, monogamy, bigamy, polygamy, crime agreement, contract, fraud, minor indemnity, guarantee, bailment, pledge, libel, slander, defamation, homicide, gender, suicide, executive, legislature, judiciary, constitution, negligence, nuisance, precedent, mortgage, prospective, retrospective, ultra vires, will, summon, warrant, public & private.

#### **Suggested Readings**

- Sasikumar, V., Dutta and Rajeevan. *A course in Listening and Speaking-I*. Foundation Books, 2005.
- Sawheny, Panja and Verma eds. *English at Workplace*. Macmillan, 2003.
- Singh, R.P. *Professional communication*. OUP, 2004.
- Arthur Waldhorn and Arthur Zeiger. *English Made simple*. Rupa and co.
- Gunashekar ed. *A Foundation English Course for Undergraduates Book I*. CIEFL, Hyderabad. Quirk and Greenbaum. *A University Grammar of English*. Longman, 1973.
- Thomson, A.J. and A.V. Martinet. *A Practical English Grammar*. New Delhi OUP, 2005.

**Paper 1.2 History – I**  
**HISTORY OF INDIA FROM EARLIEST TIMES TO 1206 A.D.**

**Teaching Hrs.: L-04**  
**Total: 100**  
**External 70**

**Exam Hrs. – 3**  
**Marks: Internal 30**

**Module : 1**

Main sources of Ancient Indian History; Different Samvat (era) prevalent (used) in Ancient Indian History; Impact of Geography on Indian History and Culture; Features of Indus-Saraswati Civilization; Society, Polity, Economy, Culture and Religion as reflected in Vedic literature; the rise of Janpadas and Republics.

**Module : 2**

Rise of Magadha upto the Nandas; Magadha Empire and contribution of Chandragupta Maurya; Ashoka – His Policies and Dhamma; Mauryan Administration, Cultural Achievements of Mauryan period; Causes of decline of the Mauryan Empire.

**Module : 3**

Different political powers in Pre-Gupta period - Sunga, Satavahan, Saka and Kushana; Prominent rulers and their contribution in Pre-Gupta Period - Pushyamitra Sunga, Gautamiputra Shatkarani, Rudradaman I and Kanishka I; Economic Progress in the Pre-Gupta period with special reference to trade and commerce.

**Module : 4**

Early History of the Gupta Dynasties upto Chandra Gupta-I; Prominent Rulers of Gupta Dynasty and their achievements - Samudra Gupta, Chandra Gupta-II, Skand Gupta; Features of Gupta Administration; Cultural Revivalism and development of Science and Technology during Gupta Period.

**Module : 5**

India in the Post-Gupta Period: Formation and Expansion of Vardhana Empire– Harsh; Features of Chola, Chalukya and Pallava administration; Sangam Age- Literature, Society and Culture; Tripartite Struggle, Contribution of Vignaraja Chahamana, Kumara Pala Chalukya and Bhoja Parmara; Factors leading to disintegration of Rajput states.

**Select Bibliography:**

- R.S. Tripathi : History of Ancient India.
- N.N. Gosh: Early History of India.
- R.K. Mookerji: Man and Thought in Ancient India.
- R.C. Majumdar: The History and Culture of the Indian People. Relevant volumes, Bhartiya Vidya Bhawan, Bombay.

**Paper 1.3 Economics-I (Micro Economics)**

**Teaching Hrs.: L-04**  
**Total: 100**  
**External 70**

**Exam Hrs. – 3**  
**Marks: Internal 30**

**Module : 1**

**Introduction:** Meaning, Nature and Scope of Micro Economics, Basic Economic Problems. Utility Analysis: Law of Diminishing Marginal Utility, Equi-marginal utility.

**Module : 2**

**Analysis of Demand:** Concept, Elasticity and their types, Determinants and Importance of Elasticity of Demand Supply Analysis: - Concept and Law of Supply, Factors Affecting Supply.

**Module : 3**

**Laws of Returns:** Production Function in Short-Run and Long Run. Revenue Concepts - Total Revenue, Marginal Revenue, Average Revenue and their relationship. Cost Analysis: - Accounting Costs and Economic Costs, Short Run Cost Analysis: - Fixed, Variable and Total Cost Curves, Average and Marginal Costs.

#### **Module : 4**

**Pricing Under Various Market Conditions:** Perfect Competition–Equilibrium of Firm and Industry under Perfect Competition. Monopoly: Price Determination. Monopolistic Competition: Price and Output Determination under Monopolistic Competition.

#### **Module : 5**

**Rent:** Concept, Meaning, Types, Theories of Rent–Classical and Modern; Quasi Rent; Wages: Meaning, Kinds and Theories; Interest: Concept, Gross and Net Interest, Theories of Interest: Classical, Neo – Classical, Liquidity Preference and Modern; Profit: Meaning, Characteristics, Gross and Net Profit, Theories of Profit.

#### **Select Bibliography:**

- Textbook of Economic Theory - Stonier and Hague; Longman Green and Co., London.
- Introduction to Positive Economics - Richard G. Lipsey
- Business Economics (Micro) - Dr. Girijashankar; Atharva Prakashan, Pune.
- Principles of Economics - M. L. Seth; Laxmi Narain Agarwal, Agra.
- Micro Economics - M. L. Jhingan; Vrinda Publications, New Delhi.
- Managerial Economics - Theory and Application - D. M. Mithani
- Micro Economic Theory – Dr. V. C. Sinha – Sahitya Bhawan, Agra.

#### **Paper 1.4 Sociology-I**

**Teaching Hrs.: L-04**  
**Total: 100**

**Exam Hrs. – 3**  
**Marks: Internal 30 External 70**

#### **Module 1 : Basic Concepts**

Sociology, Meaning, Scope and Subject matter. Society, Community, Association, Institutes, Mores Social Group: Meaning and Classification of Social groups, Family, Traditional and Modern

#### **Module 2 : Pioneers of Social Thought**

Auguste Comte: Law of three stages, Positivism and Religion of humanity, Emile Durkhum: Social Solidarity, The theory of Division of Labour, theory of Religion and Suicide, Karl Marx: Maxim Concept of Social change, Class struggle, Division of Labour, Marweber : Sociology of Religion, The Concept of authority and the Concept of Social action

#### **Module 3 : Social Change and Social Control**

Social Change, meaning, factors, Distinction between Social and Cultural Change, Social Control, Meaning and importance of Social control, Means of Social Control, Public opinion and propaganda, Renowned and Punishment, Agencies of Social Control: Religion, Family and State

#### **Module 4 : Sociology of Profession**

Profession and Professionalisms, Distinction between Profession and Occupation. Society and Professional Ethics, Sociology of Law, Relationship between Law and Society.

#### **Module 5 :**

#### **Sociological School of Jurisprudence**

Rosco Pound, Duguit, Ihering, Ehrlich

#### **Select Bibliography:**

- Maclver & Page 'Society': An Introductory Analysis
- M.Haralambos 'Sociology': Theme and Perspectives
- T.B.Bottomore 'Sociology': A Guide to problems and Literature
- David G. Mandelbaum 'Society in India'
- Ram Ahuja, Society in India.
- M.S.A. Rao, Urbanization and Social Change
- Yogendra Singh, Modernization of Indian Tradition
- Abraham: Social Thinkers
- Roueek: Social Control
- K.M. Kapadia :Marriage & Family in India.

#### **Paper 1.5 Legal methods**

**Teaching Hrs. : L-04**

**Total : 100**

**Module : 1**

Concept of law, meaning and definitions, Concept of Justice, stability and peaceful change

**Module : 2**

Classification of law, kinds of law-International law and municipal law, Public law and Private law.

**Module : 3**

**Principals and sources of Law:** Basic concept of Indian legal system, Rule of Law, Separation of powers, Constitutionalism, Principles of natural justice, Sources of law: Custom, Legislation, Precedent and Equity as sources of law

**Module : 4**

**Legislative Procedure:** Kinds of Bills, Kinds of Legislations, Supreme and Subordinate, Meaning and kinds of delegated legislation, reasons for its growth conditional legislation, safeguards against delegated legislation

**Module : 5**

Legal clinical methods

**Select Bibliography:**

- Avtar singh-Jurisprudence
- A.K.Anthony- Law for laymen
- B.M.Tripathi - Jurisprudence
- Cardozo-Nature of Radical Process
- Glanville Williams
- I.L.I. Publication on Legal Research
- N.R. Madhva Menon- Clinical legal Education
- V.D. Mahajan--Jurisprudence

**Paper 1.6 Law of Contract – I**

**Contract-I (General Principles of Contract and Consumer Protection Act, 2019)**

**Teaching Hrs.: L-04**

**Total : 100**

**External 70**

**Exam Hrs. – 3**

**Marks : Internal 30**

**Module : 1**

History and nature of contractual obligations. Agreement and contract: definitions, elements, characteristics and kinds. Proposal and acceptance - various forms, essential elements, communication and revocation - proposal and invitation to proposal, floating offers, tenders. Consideration - need, meaning, kinds, essential elements - Privity of contract and of consideration - its exceptions, adequacy of consideration, present, past and future Consideration, unlawful consideration and its effects.

**Module : 2**

**Capacity to Contract** - meaning - incapacity to contract - minor's Agreements definition of 'minor', necessities supplied to a minor, agreements beneficial and detrimental to a minor, affirmation-restitution in cases of minor's agreements, fraud by a minor, agreements made on behalf of a minor, minor's agreements and estoppels.

**Consent -Free consent - Its need, definition and factors vitiating free consent.**

Coercion-definition, essential elements, duress and coercion Various illustrations of coercion, doctrine of economic duress, effect of coercion, Undue Influence-definition, essential elements, parties between whom such influence is presumed, where liability to prove the existence of undue influence, independent advice, Pardahanashin women, unconscionable bargains, effect of undue influence, misrepresentation - definition,

misrepresentation of law and of fact, their effects and illustration, Fraud-definition, essential elements-suggestions, when does silence amounts to fraud?, Active-concealment, importance of intention. Mistake - definition, kinds, fundamental error, mistake of law and of fact, their effects.

**Module : 3**

**Legality of objects:** Void and voidable agreements - void, voidable, illegal and unlawful agreements and their effects, Lawful and unlawful considerations and objects, Void Agreements - Agreements without consideration, Agreements in restraint of marriage, Agreements in restraint of trade, its exceptions - sale of goodwill, section 11 restrictions, exclusive dealing agreements, restraints on employees under agreements of service, Agreements in restraint of legal proceedings - its exceptions, Uncertain agreements, Wagering agreement-its exception.

### **Discharge of a contract and its various modes.**

By performance-conditions of valid tender, Performance of reciprocal promises, time as essence of contract, By breach-anticipatory breach and present breach, Impossibility of performance - specific grounds of frustration-application to leases, theories of frustration, effect of frustration, frustration and restitution, By period of limitation, By agreement - rescission and alteration, their effect, remission and waiver of performance, extension of time - accord and satisfaction.

### **Module : 4**

### **Quasi-contracts or certain relations resembling those created by contract. Remedies in contractual relations;**

Damages-kinds, remoteness of damages, ascertainment of damages, Injunction - Refund and restitution, Specific performance

### **Government as a Contracting Party**

Constitutional provisions - government power to contract -procedural requirements.

### **Standard Form Contracts**

Nature, advantages - unilateral character, principles of protection against the possibility of exploitation, judicial approach to such contracts, exemption clauses, clash between two standard form contracts.

### **Module -5**

### **The Consumer Protection Act - 2019**

#### **Leading Cases**

- Carlil v. Carbolic Smoke Ball Company (1883) I.Q.B.256.
- Bhagwan Das v. Girdhari Lal & Company. AIR 1966. S.C.543.
- Lalman Sukha v. Gauri Dutt All. IJ (1913) 409.
- Mohri Bibi v. Dharmodas Ghose (1903) I.A.172.
- Indian Medical Association v. V.P. Shantha, AIR 1996 SC 500
- J.J. Merchant v. Shrinath Chaturvedi, AIR 2002 SC 2931

#### **Select Bibliography:**

- Beatesen (ed.), Anson's Law of Contract (27th ed. 1998).
- P.S.Atiya, Introduction to the Law of Contract 1992 reprint (Clarendon Law Series).
- Shree Ram Singh – Law of Contract, Central Law Publication, Ed. 7, 2016
- Kailash Rai – Law of Contract
- R.K. Bangia – Law of Contract
- Avtar Singh, Law of Contract (2000) Eastern, Lucknow.
- G.C.Cheshire, and H.S. Fifoot and M.P. Furmston, Law of Contract (1992)
- ELBS with Butterworths M.Krishnan Nair, Law of Contracts, (1998).
- G.H. Treitel, Law of Contract, Sweet & Maxwell (1997 Reprint).
- R.K. Abichandani, (ed.), Pollock and Mulla on the Indian Contract and the Specific Relief Act (1999), Tripathi.
- Anson, Law of Contract (1998), Universal.
- Avtar Singh - Law of Contract.
- Gurbax Singh - Law of Consumer Protection.
- P. Leela Krishna - Consumer Protection & Legal Contract.
- Avtar Singh, Law of Consumer Protection.

# **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2021-22)

1 st Year (Semester – II)

**Paper 2.1 English Language Skills II**

**Teaching Hrs. L-06**

**Exam Hrs. – 3**

**Total: 100 Marks (Internal 30 External 70)**

## **Module: 1 Transformations**

- I. Affirmative to Negative
- II. Affirmative to Interrogative (Yes-No, Wh questions)
- III. Simple to Compound and Complex
- IV. Compound to Simple to Complex
- V. Complex to Compound and Simple
- VI. Active and Passive Voice
- VII. Direct and Indirect Narration

## **Module: 2 Grammar & Usage**

- I. Parts of speech: Nouns, Adjectives, Adverbs, Verbs, Pronouns, Auxiliaries, Determiners, Conjunctions, Prepositions, Enumerators, Interjections
- II. Tenses and their Sequence

## **Module: 3 Comprehensional Skills**

Comprehension based questions from *Emerald* and *RISE*

## **Module: 4 Composition Skills**

- I. CV and Job Application
- II. Writing of Legal Case Comments
- III. Report Writing (With an emphasis on reports related to legal issues)
- IV. Paragraph Writing on topics of Legal Interest

## **Module: 5 Law & Literature (For non-detailed study)**

- I. *To Kill a Mockingbird* by Lee Harper
- II. *Roses in December* by M.C.Chagla
- III. *The Autobiography of Martin Luther King*

## **Required Reading**

Agrawal, S.K. *RISE: COVID Stories of Hemang Rastra*. Jaipur: Baba Publication, 2020.

Agrawal, S.K.et al. *Emerald: A Coursebook for General English*. Macmillan Publishers India Private Ltd.

Judith Leigh. *CVs and job Applications*. OUP, 2004.

Quirk and Greenbaum. *A University Grammar of English*. Longman, 1973.

Leech, Geoffrey, Margaret Deuchar and Robert Hoogenraad. *English Grammar for Today*. Macmillan.

Thomson, A.J. and A.V. Martinet. *A Practical English Grammar*. New Delhi OUP, 2005.

## Paper 2.2 Political Science - I

Teaching Hrs.: L-04  
Total : 100

Exam Hrs. – 3  
Marks : Internal 30 External 70

### Module : 1

Political Science: Meaning, Nomenclature and scope; Traditional and Contemporary Perspectives of Political Science, Behaviouralism and Post Behaviouralism, Relations of Political Science with other Social Sciences (Economics, History and Sociology)

### Module : 2

State: Theories of the Origin (Divine Origin, Social Contract, Evolutionary Theory and Marxist Theory), Nature of the State - Organic theory of the State, the Concept of Welfare State, Sovereignty : Monistic and Pluralistic theories.

### Module : 3

Basic Concepts: Power, Authority and Legitimacy, Rights, Liberty, Equality, Justice and Law.

### Module : 4

Democracy and Dictatorship, Parliamentary and Presidential Systems, Unitary and Federal Systems. Political Parties, Pressure Groups. The Concept of Minority Representation and Proportional Representation.

### Module : 5

Organs of Government and their Functions with reference to recent trends, Theory of Separation of Powers. Good Governance and Globalization.

## Paper 2.3 Economic – II

### Macro – Economics

Teaching Hrs. : L-04  
Total : 100

Exam Hrs. – 3  
Marks : Internal 30 External 70

### Module : 1

Macroeconomics– An overview, Concept, Nature, Limitations, Significance, Static, Dynamic, Comparative.

National Income – Meaning, Flow concept, Measurement, Problems

### Module : 2 Important Policies (elementary) New economic Policy

Liberalization – Concept, Impact and Extent. Privatization – Concept, Impact, Extent and Mode.

Globalization – Concept, Impact and Extent. Monetary Policy – Meaning, Objectives, Significance. Fiscal Policy – Meaning, Objectives, Significance.

### Module : 3 Theories of Macroeconomics

Classical Theory Income and Employment – Introductory analysis (Says Law & Wage Price Flexibility) Keynesian Theory of Employment: An Overview. Balance of Payment & Balance of Trade: Meaning, Current Account & Capital Account

### Module : 4 Money

Nature and functions of Money. Supply of money and types of Money. Fishers Quantity theory of Money.

### Module : 5 Banking

Commercial Banks – Meaning, Functions including Credit Creation. • Central Bank: Meaning, Function and Methods of Credit Control.

### Select Bibliography:

- Jhingan M.L., Macro-Economic Theory, Vrinda Publication Ltd.
- Vaish M.C. Vaish, Macro-Economic Theory, Vikas Pub.
- Ahuja H.L., Macroeconomics- Theory and Policy, S. Chand & Company Ltd.

## Paper 2.4 Sociology– II

Teaching Hrs. : L-04  
Total : 100

Exam Hrs. – 3  
Marks : Internal 30 External 70

### Module : 1

Development of Indian Society, Development from Vedic to Post Vedic Society, Indian traditional order, Ashram and Varna, System, Sanskars, Indian Cultural Values and their importance

### Module : 2 Composition of Indian Society

Rural and Urban Society, Meaning and their characteristics, Rural-Urban Linkage, Geographical determination, Social stratification and its traditional basis, Joint family : meaning, characteristics, merits and demerits, Caste: meaning, characteristic, merits and demerits and recent changes in the Caste System, Caste and class in India

### Module : 3 Weaker Sections of Society in India

Schedule Caste, Minorities, Tribes: Meaning, Features, Problem and their Classification, Other Backward Class.

### Module : 4 Trends of Social change in India

A Shift from Tradition to Modernity. Process of Westernization, Modernization, Globalization, Sanskritization, Liberalization, National building and Women empowerment

### Module : 5

- (a) i. Customs Meaning, Importance
- ii. Modes of Acquiring Customs ( Languages Symbolic Interaction)
- (b) i. Problems and Perspectives Lingusta Communities
- ii. Problems and Perspectives of Religions Communities
- iii. Role of Legislation

## Paper 2.5 Legal and Constitutional History of India

Teaching Hrs. : L-04  
Total : 100

Exam Hrs. – 3  
Marks : Internal 30 External 70

### Module : 1 Early Developments (1600-1836):

Charters of the East India Company: 1600, 1661, Settlements: Surat, Madras, Bombay and Calcutta, Courts: Mayor's Court of 1726 and Supreme Court of 1774.

### Module : 2

Statutes: Regulating Act, 1773, Pitts India Act, 1784, The Act of Settlement, 1781, Conflict: Raja Nand Kumar, Patna Case and Cossijurah Case, Warren Hastings: Judicial Plans of 1772, 1774 and 1780, Lord Cornwallis: Judicial Plans of 1787, 1790 and 1793, Lord William Bentinck (With special focus on Appraisal of Criminal Law)

### Module : 3 Evolution of law and legal institutions:

Development of law in Presidency Towns, Development of Civil law in Mufassil: Special emphasis on justice, equity and good conscience, Codification of laws: Charter of 1833, the First Law Commission, the Charter of 1853, The Second Law Commission, Establishment of High Courts, 1861, Privy Council and Federal Court: Appeals and working of Privy Council, Evaluation: Special Reference to Racial Discrimination, Merit and Demerits

### Module : 4

The Indian Councils Act, 1861 ; The Indian Councils Act, 1892 ; The Indian Councils Act, 1909 ; The Government of India Act, 1919

### Module : 5

The Government of Indian Act, 1935 (Nature and characteristics under the Act, Executive Powers of Governor General, Federal Legislature, Federal Court), Indian Independence Act 1947

### Select Bibliography:

- Jain, M.P: Outlines of Indian Legal History
- Keith, A.B: Constitutional History of Indian (1973), Chapters VII, VIII, X, XI and XII only.
- Banerjee, A.C: The Making of the Indian Constitution
- Jois, M.Rama: Legal History of India

- Kulshrashtha, VD: Landmarks in Indian Legal and Constitutional History.
- Jain, M.P: Bharatka Vidhi ka Itihas
- Mittal, J.K.: Bharat ka Vaidhanik avam Samvedhanik Itihas.

**Paper 2.6 Law of Contract – II**  
**(SPECIFIC CONTRACTS, SALE OF GOODS ACT, 1930, INDIAN**  
**PARTNERSHIP ACT, 1932 AND SPECIFIC RELIEF ACT, 1963)**

**Teaching Hrs. : L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30**

**External 70**

**Module : 1 Indemnity**

The concept, Need for indemnity to facilitate commercial transactions, Methods of creating indemnity obligations, Definition of Indemnity, Nature and extent of liability of the indemnifier, Commencement of liability of the indemnifier, Situations of various types of indemnity creations, Nature of indemnity clauses.

**Guarantee**

The concept, Definition of guarantee: as distinguished from Indemnity, Basic essentials for a valid guarantee contract, The place of consideration and the criteria for ascertaining the existence of consideration in guarantee contracts, Position of minor and validity of guarantee when minor is the principal debtor, creditor or surety, Continuing guarantee, Nature of surety's liability, Duration and termination of such liability, Position of surety in the eye of law, Various judicial interpretations to protect the surety, Co-surety and manner of sharing liabilities and rights, Extent of surety's liability, Discharge of surety's liability.

**Module : 2 Bailment**

Identification of bailment contracts in day today life, Manner of creation of such contracts, Definition of bailment, Kinds of bailees, Duties of Bailor and Bailee towards each other, Rights of bailor and bailee, Finder of goods as a bailee, Liability towards the true owner, Obligation to keep the goods safe, Right to dispose off the goods.

**Pledge**

Pledge: comparison with bailment, Commercial utility of pledge transaction, Definition of pledge transactions, Definition of pledge under the Indian contract Act, Rights of the pawner and pawnee, Pawnee's right of sale as compared to that of an ordinary bailee, Pledge by certain specified persons mentioned in the Indian Contract Act.

**Module : 3 Agency**

Identification of different kinds of agency transactions in day to day life in the commercial world, Kinds of agents and agencies, Distinction between agent and servant, Essentials of a agency transaction, Various methods of creation of agency, Delegation, Duties and rights of agent, Scope and extent of agent's authority, Liability of the principal of acts of the agent including misconduct and tort of the agent, Liability of the agent towards the principal, Personal liability towards the parties, 10 Methods of termination of agency contract, Liability of the principal and agent before and after such termination.

**Specific relief under Specific Relief Act, 1963**

Specific performance of contract, Contract that can be specifically enforced, Persons against whom specific enforcement can be ordered. Rescission and cancellation, Injunction-Temporary, Perpetual, Declaratory orders.

**Module : 4 Sale of Goods**

Concept of sale as a contract, Illustrative instances of sale of goods and the nature of such contracts, Essentials of contract of sale, Essential conditions in every contract of sale, Implied terms in contract of sale, The rule of caveat emptor and the exceptions thereto under the Sale of Goods Act, Effect and meaning of implied warranties in a sale, Transfer of title and passing of risk, Delivery of goods: various rules regarding delivery of goods, Unpaid seller and his rights, Remedies for breach of contract, Concept of nemo dat quad non habet with exceptions.

**Module : 5 Partnership**

Nature of partnership: definition, Distinct advantages and disadvantages vis-a-vis partnership and private limited company, Mutual relationship between partners, Authority of partners, Admission of partners, Outgoing of partners, Registration of Partnership, Dissolution of Partnership. Limited Liability Partnership Act, 2008.

**Leading Cases:**

- National Bank of India Ltd. v. Sohan Lal, AIR 1962. Punjab 534.
- Amrit Lal Gordhan Lallan v. State Bank of Travancore, AIR 1960 S.C.1432.
- Patnaik & Company v. State of Orissa, AIR 1965 S.C. 1655.
- State of Gujarat v. Maman Mohd., AIR 1967 S.C. 1885.

**Select Bibliography:**

- R.K. Abhichandani (ed.), Pollock and Mulla on Contracts and Specific Relief Acts (1999) Tripathi, Bombay.
- Avtar Singh, Contract Act (2000), Eastern, Lucknow.
- Krishnan Nair, Law of Contract, (1999) Orient
- Avtar Singh, Principles of the Law of Sale of Goods and Hire Purchase (1998), Eastern, Lucknow.
- J.P. Verma (ed.), Singh and Gupta, The Law of Partnership in India (1999), Orient Law House, New Delhi.
- A.G.Guest (ed.), Benjamin's Sale of Goods (1992), Sweet & Maxwell.
- Beatson (ed.), Ansons' Law of Contract, (1998), Oxford, London.
- Saharay, h.k., Indian Partnership and Sale of Goods Act (2000), Universal
- Ramnainga, The Sales of Goods Act (1998), Universal
  
- Dasai S.T. The Law of Partnership in India and Pakistan.
- Kapoor N.D. - Mercantile Law (Hindi & English).

## **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2022-23)

**2<sup>nd</sup> Year (Semester – III)**

### **Paper – 3.1 Computer - I**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

#### **Module : 1**

Introduction to operating system; functions of OS, Types of Operating system, Booting Procedure, system files, Windows XP/2000. Windows concepts, Features, Windows structure, Desktop, Taskbar, Start menu, My Computer, Recycle Bin, Windows Accessories-Calculator, Notepad, Paint, WordPad, Character Map, Windows Explorer, Entertainment, Control panel, managing Hardware & Software- installation of Hardware and Software, System Tools, Communication.

#### **Module : 2**

**Introduction to Computer:** Definition, Characteristics. Capabilities and Limitations. Evaluation of Computers Classification of computers, Microcomputers, Minicomputers, Mainframes, Supercomputers, Personal computers Desktop, Laptop, Palmtop, Tablet PC, Basic Components of a Computer System-Control Module, ALU, Input/output functions and characteristics.

Memory Introduction, Classifications- Volatile Memory and Non- Volatile , Flash Memory, ROM, RAM, EPROM, PROM, EEPROM other types of memory

#### **Module : 3**

Input, Output and storage units, Computer Keyboard, Pointing Devices: Mouse, Trackball, Touch Panel, and Joystick, Light Pen, Scanners, Various types of Monitors, Touch-sensitive screens, Optical Recognition System, Pen based systems, Digitizers, MICR, OCR, OMR, Bar-code Reader, digital camera.

**Hard Copy Devices:** Impact and Non- Impact Printers- Daisy Wheel, Dot Matrix, Line Printer, Chain Printer, Comb Printers, Non Impact Printers- DeskJet, Laser Printer, Thermal Transfer Printer, Barcode Printers, Electro static printers and plotters.

#### **Module : 4**

High Level Language and Low Level Language, Software and its different types- System Software, Application software. Hardware , Firmware Introduction to algorithm and Flow chart: - Representation of an algorithm, flowchart symbols and levels of flow chart, rules, advantage and limitations of flowchart

#### **Module : 5**

Introduction to Networking Concepts, Types of networking (LAN, MAN AND WAN), Communication Media, Introduction to Database Management System and its uses. Introduction to internet ,advantages limitations and services, Internet Tools include: email, ftp, E-commerce ,telnet the World Wide Web, and search engines and Computer Virus.

#### **Select Bibliography:**

- Computer Fundamentals : Pradeep K. Sinha. Priti Sinha BPB Publications
- Fundamentals of Computers : V.Rajaraman ,Prentice Hall of India Private Ltd.
- PC Software : Dr. Neeraj Bhargava , Mrs. Ritu Bhargava, Mr.Ajay Singh Gaur , Mr. Rajesh Kalra , University Book House Pvt. Ltd.

#### **Computer Lab :**

Computer Lab to be used for the following: Windows, managing windows, working with M S Word, M S Excel and M S Power Point

#### **Introduction to M S Dos:**

Internal Commands MD, CD, RD, COPY CON, TYPE, DATE & TIME, ,REN, PROMPT, CLS, DIR/P/W, COPY , DEL Etc. External commands - FORMAT, DISKCOPY, DISKCOMP, XCOPY, CHKDISK, SCANDISK, HELP, DEBUG, PRINT etc.

#### **Introduction to M S Word:**

1. Working with formatted text, Menu Bar, Shortcut keys, Formatting documents: Selecting text, Copying & moving data, Formatting characters, changing cases
2. Paragraph formatting, Page formatting, Header & footer, Bullets & numbering, forming tables. Finding & replacing text, go to (F5) command,
3. Printing documents, page, break, auto text, symbol, picture & word art.
4. Spelling & grammar, word count, auto correct and mail merge

#### **Introduction to M S Excel:**

1. Spreadsheets, workbooks, creating, saving & editing a workbook
2. cell entries (numbers, labels, and formulas)
3. Adding and deleting rows and columns Filling series
4. data sort, Formatting worksheet
5. Some useful Functions in excel (SUM, AVERAGE, COUNT, MAX, MIN, IF), Cell referencing
6. Introduction to charts: types of charts, creation of chart.

#### **Introduction to M S Power Point:**

1. Presentation tips, components of slide, templates and wizards, using template, choosing an auto layout, using outlines
2. adding subheadings, editing text, using master slide, adding slides, changing background and shading, adding header and footer, adding clip arts and auto shapes
3. Working in slide sorter view (deleting, duplicating, rearranging slides)
4. adding transition and animations to slide show
5. inserting music or sound on a slide, Inserting action buttons or hyperlinks for a presentation
6. set and rehearse slide timings, viewing slide show

## MEDIEVAL INDIA AND INSTITUTIONS (1526-1656 A.D)

Teaching Hrs. : L-04

Total : 100

External 70

Exam Hrs. – 3

Marks : Internal 30

### Module : 1

India's political system on the eve of Babur's invasion. Nature of Babar's achievements in India. Importance of Babarnama as a source of History. Humayun's relations with his brothers and the role of Nobility. Problem of Malwa and Gujarat.

### Module : 2

Mughal relations with Afghans (Shershah) and Rajputs under Babur and Humayun. Sher Shah – Sources of Study. Administration Reforms and Achievements.

### Module : 3

Akbar - Sources with special reference to the works of Nizamuddin, Abul Fazal and Badauni. Relations with Nobility and Rajputs. Relations with Central Asian power, Deccan Policy.

### Module : 4

Growth of Administrative machinery Central, Provincial, Revenue and Army Administration (Mansabdari system) Theory of sovereignty and growth of religious ideas & Suleh-kul.

### Module : 5

Jahangir- Parties and politics at Jahangir's Court and the Nurjahan 'junta'. Growth of Administration. Shah Jahan - North-West frontier and Central Asian policy. Relations with Rajputs and Deccan problem. Source- "Tuzuk-i-Jahangiri", Iqbalnama-i-Jahangiri and Badshahnama of Quzwini and Lahori.

### Select Bibliography:

- R.P.Tripathi: (i) Rise and Fall of Mughal Empire. (ii) Some Aspects of Muslim Administration in India.
- Rushbrook Williams : An Empire Builder of the Sixteenth Century.
- S.K. Bannerji : Humayun Badshah.vol I
- William Erskine : History of India. Vol. I.
- Ishwari Prasad : Life and Time of Humayun.
- K.R. Qanungo : Sher Shah and his Times.
- Harbans Mukhiya : Historians and Histrography during the reign of Akbar.
- Moreland: India at the Death of Akbar.
- Irfan Habib: The Agrarian system of the Mughal India.
- Beni Prasad : History of Jahangir B.P. Saxena: Shahjahan of Delhi.

## Paper – 3.3 Political Science– II

### Modern Indian Social and Political Thought Duration

Teaching Hrs. : L-04

Total : 100

Exam Hrs. – 3

Marks : Internal 30 External 70

### Module : 1

The Nature and Content: Genesis of Indian Thought and Compulsion of National Movement, Synthesis of Thought and Activation, Contact with the west and the Nature of Impact. Thought of Socio-Religious Regeneration : Socio-Religious Reform proceeding, Political Evolution, Protest and Reforms-Institutional bases. Ram Mohan Ray, Social Justice, Religion and Humanism. Dayanand: Social Equality, Integration and Justice: Nationalism and Internationalism. Modern India & Swami Vivekanand.

### Module : 2

Liberal Foundations: The Vision of M.G. Ranade & G.K. Gokhale: The British connection, Loyalty and National Self Respect, Spiritualization of Politics, The issue of Purity and Primacy of Means of Protest:

Modernization and Constitutionalism, Social Regeneration and National Consolidation, Secularism, Self Government. Economic Nationalism: Dadabhai Naoroji, Theory of Moral and material Drain. M.G.Ranade's Alternative, G.K. Gokhale's Views on Protection and Free Trade, Economic Regeneration and the States.

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### **Module : 3**

Militant Nationalist Foundations: B.G.Tilak's Perspectives of The British connection, Means of Protest: Resistance, Boycott Non-Cooperation, The Concept of Swaraj, National Dignity and National Reconstruction thought, National Education and Swadeshi, Social Reforms, Political Evolution, Shift in view after 1915. The Moderate Perspectives. Lajpat Rai's Perspective of Social Justice and National Integration, Nationalism, Religion, Social Reforms and Political Evolution. Denominational Response to Nationalism : Syed Ahmed Khan and M.A. Jinnah: Views on the British Rule and Muslims in India, Inadequacies of Parliamentary-democrat Process, Secularism and Nationalism, Religion, Social- Order and Political Separatism, The Two Nation Theory.

### **Module : 4**

V.D.Savarkar's Concept of Hindutav, Bases of Integrative Nationalism: Aurobindo: Cultural Spiritual Basis of Nationalism, Militant Nationalism and Resistance: Humanism, Universalism. Rabindranath Tagore`s Nationalism and Universalism. Bases of Socialism and democracy: M.N. Roy`s Transition from Marxism to Radical Humanism, The New Social Order.

### **Module : 5**

Jawaharlal Nehru: Liberal and Socialist Influences: Nationalism and World Order, Social Integration, Secularism, Nation Building, Democracy, Socialism, Planned Economic Development and Industrial Growth. B.R. Ambedkar: Social Justice and Social Integration, Nationalism, Constitutional Framework, Rule of Law and Nation Building. M. K. Gandhi's Thought and the Legacy: Formative Influences of Thought Process. Religion and Politics, Truth, Non-Violence, Satyagraha, Non-Co-operation and Boycott, Perspective of Western Civilization, Parliamentary Democracy, Science and Technology, State and Statelessness, Bread Labour, Economics Justice and Trusteeship, Universal Humanism, Relevance of Gandhi's Alternatives; Social, Economic and Political Base, of Sarvodaya : Views of Gandhi, Vinoba and Jayaprakash Narayan; Communist Thought and Activism in India : Major Ideological Dimensions and Contribution.

#### **Select Bibliography:**

- A. Appadorai: Indian Political Thinking From Naoroji To Nehru
- K.P. Karunakaran: Continuity and Change In Indian Political
- V.P. Verma: Modern Indian Political Thought
- P.L. Nagar: Adhunik Bharatiya Samajik Avam Rajnitik Chintan
- O. P. Goyal: Studies In Modern Indian Political Thought
- A.R. Desai: Social Background of Nationalism
- V.R. Mehta: Ideology, Modernization and Politics In India
- K.D. Damodaran: Indian Thought
- Bhavani Sen Gupta: Communism In Indian Politics
- K.P. Karunakaran: Continuity and Change In Indian Politics
- Virendra Grover : Bal Gangadhar Tilak
- Shyamlal and K.S. Saxena : Ambedkar and Nation Building(Ed.)
- K.P Karunakaran : Religion and Political Awakening In India
- B.R. Purohit : Hindu Revivalism and Indian Nationalism
- Lal Bhadur : The Muslim League
- V.V.Ramana Murti : Non-Violence In Politics
- B.S.Sharma : The Political Philosophy of M.N. Roy
- D.B.Mathur : Gopal Krishan Gokhale
- Appadorai : Documents On Political Thought In Modern India
- G.N. Dhawan : Political Philosophy of Mahatma Gandhi
- K.P. Karuna Karan : Modern Indian Political Tradition
- Karan Singh : Aurobindo - The Prophet of Indian Nationalism
  
- M.A. Dass : The Political Philosophy of Jawahar Lal Nehru
- M.M. Buch : Rise and Growth of Indian Liberalism : Rise and Growth of militant nationalism
- Raman Murthy : Non-Violence In Politics
- Shay : The Legacy of Lokmanya

- V.R. Mehta : Foundations of Indian Political Thought
- C.F. Andrews and G. Mukherjee : Rise and Growth of The Congress In India
- S.A. Wolepert : Tilak and Gokhale

**Paper 3.4 LAW OF TORTS AND MOTOR VECHICLE ACT**

**Teaching Hrs. : L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30**

**External 70**

**Module : 1 Evolution of Law of Torts**

England- forms of action - specific remedies from case to case, India - principles of justice equity and good conscience - uncodified character, advantages and disadvantages.

**Definition, Nature, Scope and Objects**

A wrongful act - violation of duty imposed by law, duty which is owed to people generally (in rem), *damnum sine injuria* and *injuria sine damnum*, Tort distinguished from crime, breach of contract and Quasi Contract, The concept of unliquidated damages, Changing scope of law of torts : Objects - prescribing standards of human conduct, redressal of wrongs by payment of compensation, prescribing unlawful conduct by injunction.

**Principles of Liability in Torts**

Fault, Wrongful intent, negligence, Liability without fault, Violation of ethical codes, Statutory liability, Place of motive in torts.

**Module : 2 Justification in Tort**

*Volenti non fit injuria*, Necessity, private and public, Plaintiff's default, Act of God, Inevitable accident, Private defence, Statutory authority, Judicial and quasi-judicial acts, Parental and quasi-parental authority.

**Extinguishment of liability in certain situations**

*Actio personalis moritur cum persona* - exceptions, Waiver and acquiescence, Release, Accord and satisfaction, Limitation.

**Standing**

Who may sue-aggrieved individual - class action - social action group, Statutes granting standing to certain persons or groups, Who may not be sued?

**Doctrine of sovereign immunity and its relevance in India Vicarious Liability**

Basic, scope and justification, Express authorization, Ratification, Abetment, Special relationships: Master and servant - arising out of and in the course of employment - who is master? - the control test, who is servant? - borrowed servant, independent contractor and servant, distinguished - Principal and agent, Corporation and principal officer.

**Absolute/Strict liability**

The rule in *Rylands v. Fletcher*, Liability for harm caused by inherently dangerous industries.

**Module : 3 Torts against persons and personal relations**

Assault, battery, mayhem, False imprisonment, Defamation - libel, slander including law relating to privileges, Marital relations, domestic relations, parental relations, master and servant relations, Malicious prosecution, Shortened expectation of life, Nervous shock.

**Wrongs affecting property**

Trespass to land, trespass ab initio, dispossession, movable property- trespass to goods, detinue, conversion, Torts against business interests- injurious falsehood, misstatements, passing off.

**Module : 4 Negligence**

Basic concepts, Theories of negligence, Standards of care, duty to take care, carelessness, inadvertence, Doctrine of contributory negligence, *Res ipsa loquitur* and its importance in contemporary

law, Liability due to negligence : different professionals, Liability of common carriers for negligence.

**Nuisance**

Definition, essentials and types, Acts which constitute nuisance obstructions of highway, pollution of air, water, noise, and interference with light and air.

## **Module : 5 Legal remedies**

Legal remedies, Award of damages - simple, special, punitive, Remoteness of damage - foreseeability and directness, Injunction, Specific restriction of property, Extra-legal remedies - self help, re-entry on land, re-capture of goods, distress damage feasant and abatement of nuisance.

**Motor Vehicle Act 1988** as amended up to date and rules under the Act.

### **Leading Cases:**

- Ushaben v. Bhagya Laxmi Chitra Mandir. AIR 1970. GUJ. 18.
- Municipal Corpn. of Delhi v. Subhagwanti AIR 1966. S.C. page 1750.0
- Rylands v. Fletcher (1869) IR HT 330.
- Union Carbide Corporation v. Union of India, AIR 1992 SC248
- M.C. Mehta v. Union of India, AIR 1987 SC 965

### **Select Bibliography:**

- Salmond and Heuston - On the Law of Torts (2000) Universal, Delhi.
- D.D. Basu, The Law of Torts (1982), Kamal, Calcutta.
- B.M. Gandhi, Law of Tort (1987), Eastern, Lucknow
- P.S. Achuthan Pillai, The law of Tort (1994) Eastern, Lucknow.
- Ratanlal & Dhirajlal, The Law of Torts (1997), Universal, Delhi.
- Jai Narayan Pandey- Law of Torts
- R.K. Bangia- Law of Torts
- N.M. Shukla- Law of Torts
- A.K. Dixit Law of Torts & Consumer Protection

## **Paper 3.5 PUBLIC INTERNATIONAL LAW-I**

**Teaching Hrs. : L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30**

**External 70**

### **Module : 1**

Definition, Historical developments, Nature and Basis of International Law, Weaknesses of International Law.

### **Module : 2**

Relation between International Law and State Law, States Kinds of States and Non-State entities, Acquisition and loss of State Territory

### **Module : 3**

Territorial water, Continental Shelf, Continuous zone and exclusive economic zone, Diplomatic agents, Classification and Functions of diplomatic agents, Privileges and Immunities of diplomatic agents with reference to Vienna Convention on Diplomatic Relation, 1961.

### **Module : 4**

Treaties : Definition, Basis, classification and formation of treaties. Interpretation and revision of treaties, principles of jus cogens and pacta sunt servanda, termination of treaties. Vienna Convention on the Law of Treaties. Pacific and compulsive means of settlement of international disputes.

### **Module : 5**

War: Its legal character and effects, Enemy character, Armed conflicts and other hostile relations, belligerent Occupation, War Crimes, termination of war and doctrine of postliminium, Prize courts, Genocide

### **Leading Cases:**

- United Kingdom v. Norway (Anglo Norwegian fisheries case) ICJ Report 1951 p. 116
- The Nuremberg judgment, International Military Tribunal, Nuremberg 1946 AJIL Vol. 41, 1947 p. 172
- In Re Government of India and Mubarak Ali Ahmad 1952 1 II Er 2060
- Khutch Tribunal award case- foreign affairs report volume XVII March 68.
- Right to passage over Indian territory case ICJ Report 1957 p. 125

**Select Bibliography:**

- Stark- An introduction to International Law
- Oppenheim- International Law Vol. I and II
- Antonio Cassese- International Law
- Breirly- The Law of Nations
- Nartin Dixon- Textbook on International Law
- Dr. H.O. Agarwal- International Law and Human Rights
- S.K. Kapoor- International Law, Human Rights

**Paper 3.6 Labour and Industrial Law-I****Teaching Hrs. : L-04****Total : 100****Exam Hrs. – 3****Marks : Internal 30****External 70****Module : 1**

Historical perspective of labour:

- Labour through the ages: slave Labour- guild system division on caste basis labour during feudal days.
- Labour Capital Conflicts: Exploitation & Labour profit motive, poor bargaining power, poor working condition, unorganized labour bonded labour, surplus, labour division of labour.
- Transition from exploitation to protection and from status to contract.

**Module : 2**

Industrial Dispute Act- Scope and Object definitions, assistance to bipartite settlement, work committee, conciliation officer, authorities for saving disputes, reference power. Provision Relating to Lay-off,

**Module : 3 Trade Unionism:**

Trade Union Freedoms: International perspective, The history of trade union movement in India, Right to trade union as part of human right, freedom of association- international norms and the Indian constitution The Trade Union Act, 1926: definitions, registration of trade union, functions of registrar, cancellation of registration and incorporation of registered trade unions. Funds- political and general, rights and liabilities of registered trade union, immunities, office bearers, change of name, amalgamation and dissolution of trade union, penalties.

**Module : 4**

Complete Factories Act, 1948- Definitions, inspectors, provisions regarding health, safety, welfare, provision relating to employment of young person, women workers, Annual leave with wages & Penalties.

**Module : 5**

Protection of the Weaker Sections of Labour- Tribal labour: need for regulation, unorganized labour like domestic servants- problems and perspectives, bonded labour, (Regulation & Abolition Act, 1970), Child Labour Prohibition Act, 1986

**Leading Cases:**

- Workmen of Indian Standard Institutions v. Indian Standard Institution AIR 1976 SC 145.
- Burmah Shell Co v. Burmah Shell Management Staff Association 1970 I FLL J. 590 SC, AIR 1971 SC 922.
- Workmen of firestone Tyre and Rubber Co. Ltd. v. The Management of Firestone Tyre and Rubber Co. Ltd. AIR 1972 SC 1227.
- Delhi Cloth and General Mills Co Ltd v. Ludh Budh Singh AIR 1972 SC 1031
- Jay Engineering Works v. State of West Bengal, AIR 1990 Cal 406
- Bidi Leaves and Tobacco Merchants Association India and other v. State of Bombay AIR 1962 SC 486
- Bangalore Water Supply v. A. Rajappa AIR 1978 SC 548
- Express Newspapers Ltd v. Union of India AIR 1958 SC 578

**Select Bibliography:**

- O.P. Malhotra: Law of Industrial Disputes

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- S.C. Srivastava: Social Security and labour laws
- V.V. Giri: Labour problems in Indian industry
- R.C. Saxena: Labour problems and social welfare
- S.N. Mishra: Labour and Industrial Laws
- Anil Sachdeva: Industrial and Labour Laws
- K.N. Pillai: Labour and Industrial Laws
- Ganga Sahai Sharma: Shram Vidhi
- N.D. Sharma : Shram Vidhi
- Gopi Krishan Arora : Shram Vidhi

## **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2022-23)

**2<sup>nd</sup> Year (Semester – IV)**

**Paper 4.1 Computer – II**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

### **Module : 1 Database Management System**

Data, Data Processing, Merits and demerits of file organisation. Database Overview, Purpose of the Database system, File systems Vs. Database Systems, View of Data: Data Abstraction, Instances, Schema, Data Models: Overview of Network, Hierarchical, and Relational Model, Database Architecture and Administrators, Codd's Rules.

### **Module : 2**

ER Model: Basic Terminology, Entity, Entity sets, attributes and keys, Relation and Relationship sets, Entity-Relationship Diagram, Weak and Strong entity types, Features of E-R Model, Specialization, Generalization Aggregation, Creating table from ER diagram. Basic Concept of Normalization up to BCNF.

### **Module : 3**

Implement Database concepts using Access, Creating Tables, Data Types, Entering Data, Table Design, Indexing, Importing Data, Operators and expressions, expression builder, various functions of Access, Import and Export Table, Creating Queries, Setting Relationship between Tables, Creating Forms, Controls and components of form, Master table and transaction table. Join property, various join options available in access, Creating & Printing Reports.

### **Module : 4**

Query Languages: DDL, DML, DCL, Introduction to SQL, Data Types, Basic SQL commands like Create, Alter, Drop, Truncate, Insert, Update, Delete etc, Basic SQL Queries, Union, Intersect and Except, Nested Queries.

### **Module : 5**

Transaction management and Concurrency control, Transaction management: ACID properties, serializability and concurrency control, Lock based concurrency control (2PL, Deadlocks), Time stamping methods, optimistic methods, database recovery management.

#### **Select Bibliography:**

- Database Management System By A. Silberschatz, Henry F.Korth, S. Sudershan (McGraw- Hill)
- An Introduction to Database System By C.J. Date (Addision Wesley)
- Fundamentals of DBMS By Gupta, Dhillon, Magho, Sharma (Lakhanpal Publishers)
- Teach yourself Access. Sieglel, BPB
- Introduction to Computer Data Processing and System Analysis By V K Kapoor (Sultan Chand and Sons)

### **Paper 4.2 History – III**

**MODERN INDIAN HISTORY (1740-1956A.D.)**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

### **Module : 1**

Political and Economic Condition of India at the advent of Europeans; British Expansion in Bengal - Battle of Plassey and Buxer; Administrative changes during 1772-73 AD; Emergence of Regional powers - Mysore, Punjab and Awadh : their struggle with British and annexation in the British Empire in the British Empire.

### **Module : 2**

Third Battle of Panipat and its consequences; Marathas under Mahadaji Sindhia and Nana Phadnavis; Maratha struggle with British Power; Causes of the failure of the Marathas.

### **Module : 3**

Uprising of 1857 : Causes, Nature, Failure and Consequences; Growth of British paramountcy in the Princely states-1858-1947 A.D. Main features of Permanent settlement, Raiyyatwari and Mahalwari revenue settlements and their impact on Peasantry; Growth of English Education and Press.

### **Module : 4**

Economic Impact of British Rule; Drain of wealth and its consequences; Causes of the emergence of Indian Nationalism : Role of Moderates and Extremists; Salient features of Government of India Act of 1919 and 1935 A.D.

### **Module : 5**

India's struggle for Freedom from 1920 to 1947 A.D.; Growth of Communal Politics; Factors Leading to Partition of India; Main features of the Indian Constitution of 1950 A.D.: Problems and Process of the Integration of Princely States into Indian Union (1947-49 A.D.); Reorganization of Indian states in 1956 A.D.

#### **Select Bibliography:**

- Bisheswar Prasad: Bondage and freedom.
- G.S.Sardesai : New History of the Marathas.Vol.III (also in Hindi)
- Sumit Sarkar : Modern Indian 1885 to 1947.
- Bipin Chandra: Modern India.
- A.R. Desai: Social Background of Indian Nationalism.
- B.N. Pandey (ed.): Centenary History of the Indian National Congress (1885-1985) Vikas Publishing House. New Delhi 1985.
- Tara Chand : History of freedom Movement in India, 4 vols Publication Division, New Delhi.
- M.S.Jain : Adhunik Bharat ka Itihas (Hindi)
- Bipin Chandra : Bharat ka Swatantrata Sangram (Hindi)
- B.N. Lunia : Adhunik Bharat ka Rajnitik Awam Sanskritik Itihas (Hindi)
- S.N. Paul : Growth of English Press in India.

### **Paper 4.3 Political Science III (State Politics in India)**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

### **Module : 1**

Background : Trends in the growth of Nationalism and Democracy in British India and Princely states; integration of Princely States and Emergence of Modern Rajasthan, Princes in Rajasthan Politics;

Linguistic States Structure - Organization and aftermath.

### **Module : 2**

Constitutional Framework, Governance of States: office of the Governor- Mode of Appointment, Powers and functions; Role of Governor in State politics and Constitutional position. The office of the Chief minister-powers and functions and emerging role in state politics, The Council of Ministers in State Politics; The State legislature- Its organization, functions and emerging role in State Politics.

### **Module : 3**

Defections and State politics in India with special reference to the study of the Politics of defections in Haryana, Rajasthan and Bihar. Coalition Politics in the Indian States with reference to the study of the

working of coalition government in Kerala, West Bengal and Uttar Pradesh. Role of regional political parties in India with reference to the study of the Akali Dal, the Telugu Desham and AIADMK.

**Module : 4**

Political Parties and general elections: The pattern of party alliances : gains and short fall in general elections; Political Parties in Rajasthan; Electoral politics and Political Developments in Rajasthan. Role of Opposition in Rajasthan Vidhan Sabha; Pattern of leadership in States.

**Module : 5**

Determinants of State Politics; Major Pressure Groups in India with special reference to Trade Unions and Chambers of Commerce; Public Opinion in India; Role of Caste, Region and language in State Politics.

**Select Bibliography:**

- B. L. Pangariya : State Politics In India
- Hardgrave : The Dravidian Movement
- I.N. Tewari : State Politics In India
- Iqbal Narain (Ed) : State Politics In India
- K.L. Kamal : Spotlight on Rajasthan Politics
- Myron Weiner (Ed) : State Politics In India
- Myron Weiner and John Os Good Field (Eds) : Electoral Politics In The Indian States
- Paul Brass : Functional Politics In An Indian State
- Paul Wallace and Surendra Chopra (Ed) : Political Dynamics of Punjab (4 Vol)
- Richard Sission : The Congress Party In Rajasthan : Political Integration and Institution Building In An Indian State
- Subhas Kashyap : The Politics of Defection : A Study of State Politics In India
- Sudha Pai : State Politics - New Dimensions
- V.P.Menon : The Story of Integration of Indian States
- H.M.Jain : State Governments
- A.R.Desai : Social Background of Indian Nationalism
- C.H.Philips (Ed) : Politics and Society In India
- Ramkrishan Nair : How The Communists Came To Power In Kerala
- M.A.Jhangian : Jana Sangh and Swatantra
- E.M.S.Nambodripad : The National Question In Kerala
- L.P.Sinha : The Left In India

**Paper 4.4 ENVIRONMENTAL LAW**

**Teaching Hrs. : L-04**  
**Total : 100**

**Exam Hrs. – 3**  
**Marks : Internal 30 External 70**

**Module : 1**

**Concept of Environment and Pollution** - Meaning and contents of environment, Meaning and contents of pollution, Kinds of pollution, Effects of pollution **Legal Control : Historical Perspective** - Indian tradition : Dharma of environment, British Raj - Industrial development and exploitation of nature Nuisance - Penal code and procedural codes Environmental Concerns in Modern India.

**Module : 2**

**Constitutional Protection to environment** - Constitution making - development and property oriented approach Fundamental Rights and Environment - Rights to clean and healthy environment, environment V/s development. Directive principles of state policy and environment Fundamental Duties and environment . Other provisions of the constitution relevant to environment Emerging Principles - polluter pays, precautionary principle, public trust doctrine, sustainable development. Public Interest Litigation Judicial, Activism Pertaining to Environmental Pollution.

**Module : 3**

**The Water (Prevention and Control of Pollution) Act, 1974:** Application of the Act, Definitions Constitution of central, state and joint boards Powers and functions of the Board, Qualification and MGSU BIKANER

disqualification of the members Prevention and control of water pollution and procedure thereof , Funds, account and audit Penalties

**The Air (Prevention and Control of pollution) Act, 1981:** Application of the Act, Definitions Constitutions of central, State and joint boards Powers and functions of the Board, Qualifications and disqualifications of the members Prevention and control of Air pollution and procedure thereof, Funds, account and audit Penalties.

**Module : 4**

**Environment Protection Act, 1986:** Application of the Act, Definitions, General Powers of the central government including the powers to give directions Prevention and control of environmental pollutions and procedure thereof Penalties.

**Noise Pollution:** Meaning of Noise pollution, Sources of Noise pollution, Effects of Noise pollution, Legal Control.

**Module : 5 Forests and wild life protection**

**The Indian Forests Act, 1927:** Salient features of the Act, Applicability, Power to reserve forests, power to declare forests land, powers and functions of forest settlement officer, protected forests, penalties and contraventions.

**The Forest (conservation) Act, 1980:** Objectives, application and salient features of the Act, definitions, Restrictions on the de-reservation of forests, advisory committee, offences and penalties.

**Wild life (Protection) Act, 1972:** Objectives, applicability and salient features of the Act, Authorities, Duties of wild life Advisory Board, Hunting of wild animals, sanctuaries, National Park, Closed areas, central Zoo authority, Trade or commerce in wild animals, Animal articles and trophies, Prevention and detection of offences, penalties.

**International Regime** UN declaration on right to development, Stockholm, Rio etc. conferences. Green House effect and Ozone depletion Bio-diversity.

**Leading Cases:**

- M.C. Mehta v. Union of India, AIR 1987 SC 965
- M.C. Mehta v. Union of India, AIR 1988 SC 1115
- Vellore citizen's welfare forum v. Union of India, AIR 1996 SC 2715
- Tarun Bharat Singh, Alwar v. Union of India, AIR 1992 SC514
- A.P. Pollution control Board (II) v. Prof. M.V. Nayudu, (2001) 2 SCC 62.

**Select Bibliography**

- Aarmin Rosencraz, Environmental Law and policy in India, Oxford.
- R.B. Singh & Suresh Mishra, Environmental Law in India, Concept Publishing Co., New Delhi.
- Kailash Thakur, Environmental Protection Law and policy in India, Deep & Deep publications, New Delhi.
  
- Leela Krishan, P, Law and Environment, Eastern, Lucknow
- S.C. Shastri, Environmental Law, Eastern, Lucknow
- S. Shantha Kumar, Introduction to Environmental Law, Wadhwa, Nagpur

**Paper 4.5 Public International Law – II**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

**Module : 1**

Sources of International Law, Subjects of International Law, Place of individual in International Law

**Module : 2**

Nationality, Extradition and Asylum

**Module : 3**

Recognition of States and Governments, Recognition of Insurgency and belligerency, de facto and de jure recognition, State succession, state Jurisdiction, state Responsibility, Intervention

**Module : 4**

**International Institution :** League of Nations, United Nations. History and formation of United Nations, Organs of United Nations with specific reference to General Assembly, Security Council and International Court of Justice, New International Economic, Order Secretariat, International Criminal Court.

**Module : 5**

The law of Neutrality-Basis of neutrality, Rights and duties of neutral state and belligerent States. Quasi neutrality and U.N. Charter. Right of Angary, Contraband, Blockade, unneutral Service, Right of Visit and Search, Disarmament

**Select Bibliography:**

- Stark J.G.: An introduction to International Law
- Oppenheim: International Law Vol. I and II
- Grotious : Modern International Law
- Breirly: The Law of Nations
- Nartin Dixon: Textbook on International Law
- Dr. H.O. Agarwal: International Law and Human Rights
- S.K. Kapoor: International Law, Human Rights (English and Hindi)
- Gaur, Atula, Protection & Implementation of International Human Rights in Domestic Law serials, Publication New Delhi.

**Paper 4.6 Labour & Industrial Law – II**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30**

**External 70**

**Module : 1**

**State regulation of industrial relations:** The Industrial Dispute Act, 1947: Strike and Lockout, Lay off and retrenchment, special provision relation of layoff, public utility services. Retrenchment and Closure transfer of undertakings, penalties', Change in condition of service during pendency of dispute, unfair labour practices

**Module : 2**

Workmen's Compensation Act, 1923: Historical perspective, Constitutionality of the Act; Definitions, Compensation for workmen; commissions: Appointment, function and power; Jurisdiction of civil court, Registration of agreement; Appeals and Power of State Government to make rules.

**Module : 3**

Employee' State Insurance Act, 1948 Preliminary, definitions, corporation, standing committee and Medical benefit council; Employee State Insurance fund and purpose for which expenses can be incurred from the fund. Contribution Inspection function and duties; Recovery of contribution; Benefits Adjudication of disputes and claims; penalties; Miscellaneous provision.

**Module : 4**

Payment of Gratuity Act, 1972 Definition; payment of gratuity, forfeiture of gratuity, determination of the amount of gratuity, nomination, rights of the nominees; recovery of gratuity, appointment of inspectors and their powers; penalties, cognizance of offence; protection of action taken in good faith; protection of gratuity. Maternity Benefit Act, 1961 Definition, Maternity benefits; Right, obligations, Inspectors : appointment, power,, duties, penalties and Miscellaneous provision.

**Module : 5**

**Remuneration for labour:** Theories of wages, concept of wages, components of wages, disparity in wages. The Minimum Wages Act, 1948: objects, definitions, fixation of minimum rates of wages, inspectors, payment of minimum rates of wages, overtime claims. Payment of Wages Act, 1936

**Leading Cases:**

- Workmen of Indian Standard Institutions v. Indian Standard Institution AIR 1976 SC 145.
- Burmah Shell Co v. Burmah Shell Management Staff Association 1970 I FLL J. 590 SC, AIR 1971 SC 922.

- Workmen of firestone Tyre and Rubber Co. Ltd. v.The Management of Firestone Tyre and Rubber Co. Ltd.AIR 1972 SC 1227.
- Delhi Cloth and General Mills Co Ltd v. Ludh Budh Singh AIR 1972 SC 1031
- Jay Engineering Works v. State of West Bengal, AIR 1990 Cal 406
- Bidi Leaves and Tobacco Merchants Association India and other v. State of Bombay AIR 1962 SC 486
- Bangalore Water Supply v. A. Rajappa AIR 1978 SC 548
- Express Newspapers Ltd v. Union of India AIR 1958 SC 578

**Select Bibliography:**

- O.P. Malhotra: Law of Industrial Disputes
- S.C. Srivastava: Social Security and labour laws
- V.V. Giri: Labour problems in Indian industry
- R.C. Saxena: Labour problems and social welfare
- S.N. Mishra: Labour and Industrial Laws
- Anil Sachdeva: Industrial and Labour Laws
- K.N. Pillai: Labour and Industrial Laws
- Ganga Sahai Sharma: Shram Vidhi
- N.D. Sharma : Shram Vidhi
- Gopi Krishan Arora : Shram Vidhi

## **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2023-24)

**3<sup>rd</sup> Year (Semester –V)**

### **Paper – 5.1 Sociology - III**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

#### **Module : 1 Social Research and Social Survey**

Social Research and Social Survey- Meaning, Nature, Stages and types.

#### **Module : 2**

Data, Forms and Sources. Hypothesis, Concept, type and Sources.

#### **Module : 3**

Sampling - Concept, type , importance and limitations. Case Study Method.

#### **Module : 4**

Techniques of Data Collection: Observation, Interview, Schedule & Questionnaire. Questionnaire Construction Unit V Tabular presentation of Data, Bivariate and Multivariate. Average : Mean, Mode, Medium.

**Select Bibliography:**

- Elehance D.N.: Principles of Statistics (Hindi & English Ed.)
- Goode & Hatt: Methods in Social Research.
- Jahoda & Others: Research Method in Social Relation.
- Moser, C.A.: Survey Method in Social Investigation (English & Hindi Ed.)
- P.V. Young. : Scientific Social Survey and Research (English & Hindi Ed.)

### **Paper 5.2 Communication Skills in English**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

#### **Module : 1**

Principles of Communication: Types of communication, personal space, Gesture and posture, Facial expression, language affecting behaviour, personal qualities. Nonverbal communication. Listening skills, Requisites of an effective Letter. Use of words, phrases, clauses and balanced sentences.

Business Letters: Formal and style; the heading, the data line Inside address, attention line, the opening, salutation, the body, the subject line, the message, the complementary closing signature, reference, initials, enclosure, notation, post script, spacing, continuation, page-punctuation style.

**Module : 2**

Kinds of Business letters, planning the letter characteristics. Brevity, Completeness, tact and courtesy, routine request, requesting appointments, letters, responses to letters with sales potentials, refusal letters, claim letters, collection letters, mild and strong appeals.

**Module : 3**

Sales letters, public relations, memos and other form of messages, informal and analytical reports, agenda and minutes of meetings, preparing classified advertisement, direct mail advertising, press release.

**Module : 4**

Spoken communication: Telephone Techniques, interview applying for employment, grievances, handling complaints from customers, answering enquiries, preparation for giving talk information technology and the future uses of word processor telex and FAX.

**Module : 5**

Letters for handling complex business situations e.g. transported goods held up at a check-post, conflicting views about taxability of the goods, asking extension of time for repayment of loan installment, asking an increase in the OD, limit sanctioned by the bank, replying to industrial customer who received goods not ordered for etc. (Assignments to be given on case situations), Management Communication, Time Management.

**Paper 5.3 PROPERTY LAW INCLUDING  
TRANSFER OF PROPERTY ACT AND EASEMENT ACT**

**Teaching Hrs.: L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30 External 70**

**Module : 1**

**Jurisprudential control of property:** Concept, meaning and kinds of property: Movable and immovable, tangible and intangible property. Intellectual property: Definition and Concept.

**Preliminary:** Definition, Essentials of Transfer, Competence of parties, subject matter of transfer, transfer to unborn child, registration of transfer, etc.

**General Rules of Transfer:** (a) Restraints of alienation absolute or partial, Restraints of free enjoyment, Covenants affecting enjoyment, divesting on insolvency, perpetuities, Future estates, Doctrine of acceleration. Accumulation of income, exceptions, Covenants and Transfer. General Rules of Transfer

(b) Conditional transfer : Condition precedent, condition subsequent; vested and contingent interest.

**Module : 2**

Election, Priority of rights, Notice, Implied transfers by limited owners, transfer of property out of which maintenance claims have to be met, ownership by holding out, ownership by estoppels, feeding the grant by estoppels. Doctrine of Part performance (Ss. 35-53 A) Sale of immovable property (Ss. 54 to 57).

**Module : 3**

Mortgage and Charge : Kinds of mortgage, Rights and liabilities of Mortgagor and mortgagee, Priority, marshalling, contribution and subrogation.

**Module : 4**

Exchange, Lease, Gift, Actionable Claims.

**Module : 5**

**Easements :** Indian Easements Act, 1882, Nature, Characteristics, Creation. Essentials of Easements, Imposition, Acquisition, Incidents, Disturbance, Extinction, Suspension and Revival of Easement, Riparian Rights, License, Difference between lease and license.

**Leading cases:**

- Smt. Shanta Bai v. State of Bombay & Others, AIR 1958 SC 532

MGSU BIKANER

- Rajender v. Santa Singh, AIR 1973 SC 2537
- Kreglinger v. New Patagonia Meat and Cold Storage Comp. Ltd (1914) AC 25
- Union of India Vs Sharda Mills Ltd, AIR 1973 SC 281
- Nathu Lal v Phool Chand, AIR 1970 SC 546
- Jumma Masjid v. Deviah AIR 1962 SC 847

**Select Bibliography:**

- Mulla: Transfer of Property Act
- S. Shah: Lectures on Transfer of Property
- Vepa P Sarathi: Law of Transfer of Property
- I.C. Saxena: Transfer of Property
- B.B. Mitra: Transfer of Property
- S.R. Bhansali and Sharma: Sampathi Antaran Adhiniyam
- J.N. Kulshrestha: Sampathi Antaran Adhiniyam
- S.N. Shukla: Sampathi Antaran Adhiniyam
- G.P. Tripathi: Sampathi Antaran Adhiniyam
- Dr. R.R. Gupta: Sampathi Antaran Adhiniyam and Sukhadhikar

**Paper 5.4 COMPANY LAW**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

**Module : 1**

**General Introduction:-** Theories of corporate personality, creation and extinction of corporations. Corporations, partnerships and other associations of persons, state corporations, government companies, small scale; cooperative, corporate and joint sectors. Holding and subsidiary companies. Public and private company.

**Law relating to Public and Private Companies:** Companies Act 2013 Need of company for development, Kinds of Company, formation, registration and incorporation of a company.

**Module : 2**

**Memorandum of association-** various clauses, alteration there in- doctrine of ultra vires

**Articles of association-** binding force- alteration- its relation with memorandum of association-doctrine of constructive notice and indoor management and exceptions. Promoters-position-duties and liabilities.

**Module : 3**

**Prospectus-** issue, contents, liability for misstatements, statement in lieu of prospectus

**Shares-** general principles of allotment, statutory restrictions, share certificate- its objects and effects, transfer of shares, procedure for transfer, issue of shares at premium and discount, depository receipts- dematerialized shares (DEMAT). Calls on shares, forfeiture and surrender of shares; lien on shares

**Share capital-** kinds, alteration and reduction of share capital, further issue of capital, conversion of loans and debentures into capital.

**Borrowing powers-** charges, mortgages, contract by companies, debenture- meaning, kinds and remedies available to debenture holders.

**Module : 4**

**Directors-** position, appointment, qualification, vacation of office, removal, resignation, powers and duties of directors. Managing directors and other managerial personnel.

**Meetings:** kinds, procedure and voting.

**Audit and accounts.**

**Dividends:** payment, capitalization and profit.

**Protection of minority rights.**

**Protection of oppression and mismanagement:** who can apply? Powers of the court, company and the central government. Investigation of company affairs.

**Reconstruction and amalgamation of company**

**Module : 5**

**Winding up of Company :** Winding up-types: By court-grounds-who can apply? Procedure-powers of liquidator-powers of court, consequences of winding up. Voluntary winding up by members and creditors, winding up subject to supervision of courts, payment of liabilities, winding up of unregistered company.

**Corporate liability:**

- (i) Legal liability of companies- civil and criminal
- (ii) Remedies against them civil, criminal and tortious- specific relief Act, writs.

**Leading Cases:**

- Aron Soloman v. Soloman and Co. (1897) AC 22
- Royal British Bank v. Turkund (1856) 119 ER 886
- Bell House Ltd v. City Wall Properties Ltd (1966) SC 2 QB 656
- Bajaj Auto Ltd v. N.K. Farodia & Others, AIR 1971 SC 321
- Tata Engg and Locomotive Co Ltd v. State of Bihar AIR 1965 SC 40
- Seth Mohan Lal v. Grain Chambers Ltd AIR 1968 SC 772
- Vasudev Ram Chandra Shelat v. Pranlal Jaya Nand Thakur AIR 1974 SC 1728
- Shanti Prasad Jain v. Kalinga Tubes Ltd AIR 1965 SC 1535

**Select Bibliography:**

- Atiya: The companies act, 1956
- Avtar Singh: Company law (English and Hindi)
- L.C.B. Gower: Principles of Modern Company Law
- A. Ramaiya: Guide to the Companies Act
- R.R. Pennigton: Company Law
- S.M. Shah: Lectures on Company Law
- N.V. Paranjape- Company Law (amended upto date)

**Paper 5.5 Constitutional Law – I**

**Teaching Hrs.: L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

**Module : 1**

**Introductory:** Making of Indian Constitution., Short Title, commencement of the constitution, authoratative text in the Hindi language, Nature and special features of the Indian Constitution. Challenges to Indian Federalism, Preamble, The Union & its territory Citizenship and state

**Fundamental Rights:** Concept of Fundamental Rights. Constitutional provisions relating to Fundamental rights. Articles 12 to 35

**Module : 2**

**The Union Executive** The President Election, qualifications, salary and impeachment, Power: Legislative, Executive and dictionary power Constitutional provision. and Vice-President of India, Council of Ministers. Prime Minister- Cabinet system- Collective responsibility, Coalition Government.

**The Union Legislature** Lok Sabha, Rajya Sabha, Legislative process privileges of the parliament & state legislature, legislative privileges and fundamental rights.

**Module : 3**

**Judiciary under the Indian Consitution : Judicial independence The Union and State Judiciary** - The Supreme Court and High Courts. Subordinate Judiciary Judges: appointment, Removal transfer and condition of services. Judicial review – nature and scope.

**Module : 4**

**Services under the constitution** - Doctrine of Pleasure (Article 310), Protection against arbitrary dismissal, removal or reduction in rank (Article 311) and exceptions to Article 311., Public Service Commission of the Union and the states.

**Module : 5**

**Emergency** Meaning and scope., National, State and Financial emergency. Proclamation of Emergency- conditions, effect of emergency on centre - state relations. Emergency and suspension of fundamental rights.

**Leading cases:**

- Keshvanand Bharti v. State of Kerala, AIR 1973 S.C.1461
- Maneka Gandhi v. Union of India, AIR 1978 S.C. 597.
- Indra Sawhney v. Union of India, AIR 1993, S.C. 477.
- S.R.Bomma v. Union of India, AIR 1994, S.C. 1918.
- Vishaka v. State of Rajasthan, AIR 1997, S.C. 3014.
- Minerva Miles Ltd. v. Union of India, AIR 1978 SC 1789

**Select Bibliography:**

- D.D. Basu, Introduction of the constitution of India, Prentice Hall of India, Delhi.
- H.M.Seervai, Constitution of India, Vol.1-3, Tripathi, Bombay.
- V.N.Shukla, Constitutional law of India, Oxford.
- G.Austin, Indian Constitution : Cornerstone of a Nation.
- M.P. Jain, Indian Constitutional Law, Wadhwa and Company, Nagpur.
- Kagzi, The Constitution of India, India Law House, N.Delhi.
- J.N.Pandey- Constitution of India (English)

**Paper 5.6 PROFESSIONAL ETHICS, LAWYER'S ACCOUNTABILITY  
AND BAR - BENCH RELATIONS.**

**Teaching Hrs.: L-04****Total : 100****Exam Hrs. – 3****Marks : Internal 30 External 70****Module : 1**

**Basic Postulates of Administration of Justice:** Image of justice. Wheels of the chariot of justice. Bench-Judges in the image of justice. Bar-Act, Plead and Dress of Advocate.

**Historical Evolution of Legal Profession:** Legal Profession in Ancient India. Position of Legal Profession in Muslim Regime. Legal Profession during the British Regime.

**Autonomy of Legal Profession** Indian Bar Committee, 1923 , Indian Bar Council Act, 1926 , All India Bar Committee, 1951, Unified Bar - The necessity of time., 14th Report of the Law Commission., Advocates Act, 1961., Provisions which strengthen Unified Bar., Organization of Bar on All India Basis, Constitution of Bar Council and Elections., Admission and Disciplinary action., Regulation of Legal Education.

**Image/Position of Legal Profession in Society:** Advocacy is a profession not a business., Legal profession is a noble profession., Deterioration in Image of Legal Profession in Independent India. Role of Lawyers in Society.

**Module : 2**

**The necessity of the Professional Ethics:** The Art of Advocacy, Professional Ethics. Nature of Professional Ethics and the problems of the code of Ethics. Advantages of having codified professional ethics. Professional Ethics - Rules of Conducts.

**Bar-Bench Relationship:** General Conception., Advocates duty to the Court., Duty of Judge towards the Advocate. , Duty of the Bar towards the Bench. Grounds of disputes in Bar-Bench Relations. Suggestions to improve Bar-Bench Relations.

**Module : 3**

**Relationship between an Advocate and his client:** Code of conduct, Lawyers-client Relationship. Do's and Don'ts for advocate towards client.

**Accountability of lawyers.**

**Professional Ethics and Advocates Duties to colleagues and others**

Advocates duty to colleagues, Advocates duty to opponents. Advocates duty towards witnesses. Advocates duty to public. Illustrations of other misconduct. Disciplinary committee's approach in case of professional or other Misconduct.

**Module : 4 Contempt of Court Act 1971**

Purpose and meaning of contempt of court., Contempt of Court by Judge, lawyers and state., Contempt by Judge, Magistrate or other persons acting judicially. Contempt of Court by Advocates. Contempt of Court by State, Corporate bodies and their officers.

#### **Module : 5**

Punishment: Nature and Extent. Power of Superior Courts in Contempt cases. Safeguards available in contempt cases.

**Authorities and Procedures to deal with professional , misconduct and remedies against their order.**

State Bar Council and its disciplinary committee.

The Bar Council of India and its disciplinary committee.

Remedies against the order of punishment.

Quantum of punishment.

**Leading Cases:**

- In Re Vinay Chandra Mishra.

- Hikmat Ali Khan v. Ishwar Prasad Arya & others 1997,3SCC 1608

- P.D. Gupta v. Ram Murti and another. 7 S.C.C. 147 AIR 1998 S.C.283.

- D.S. Dalal v. State Bank of India and others. AIR 1993 S.C. 1608.

- Delhi Judicial Services Association, Tis Hazari Court v. State of Gujrat, AIR 1991 S.C. 2176.

**Select Bibliography**

- The Bar Council Code of Ethics.

- The contempt of Court Act.

- Dr.Anirudh Prasad, Principles of the Ethics of Legal Profession in India.

- Mamta Rao, Professional Ethics.

- Raju Ramachandran, Professional Ethics : Changing profession, changing ethics, Butter worths, New Delhi.

- Dr. Murlidhar Chaturvedi- Professional Ethics, Accountabiligy of Lawyers and bench

## **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2023-24)

**3<sup>rd</sup> Year (Semester –VI)**

**Paper 6.1 Economic-III**

**MONEY, BANKING AND PUBLIC FINANCE**

**Teaching Hrs.: L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30**

**External 70**

#### **Module : 1**

Value of Money and Inflation Money-concept and Importance, quantity theory of money, cash transaction and cash balance approaches; The Keynesian approach, Inflation, deflation and reflection, definition, types. causes and effects of inflation on different sectors of the economy; Demand pull and cost-push inflation; Measures to control inflation, Philips curve, Determinants of money supply - High powered money and money multiplier.

#### **Module : 2**

Commercial Banking Meaning types and Functions of commercial banks. The process of credit Creation. Evolution of commercial banking in India after independence. Recent reform in banking sector.

#### **Module : 3**

Central Banking Functions of a central bank; quantitative and qualitative methods of credit Control- Bank rate policy, Open market operations, Variable reserve ratio and Selective methods, Role and functions of the Reserve Bank of India. Objectives and limitations of monetary policy with special reference to India.

#### **Module : 4**

Nature and Scope of Public Finance Meaning and scope of public finance; Distinction between private and public finance; Public goods; The principle of maximum social advantage; Public Expenditure- Meaning, classification and principle of public expenditure; Canons and effects of public expenditure.

**Module : 5**

Taxation and Public Debt Sources of public revenue; Taxation, canons and classification of taxes; Impact and incidence and shifting of taxes; Taxable capacity; Effects of taxation; Characteristics of a good tax system. Sources of public borrowing; Effects of public debt. Various concepts of budget deficits.

**Select Bibliography:**

- Ackley, G. (1978), Macroeconomics: Theory and Policy, Macmillan Publishing Co., New York.
- Gupta, S.B. (1994), Monetary Economics, S. Chand & Co., New Delhi.
- Musgrave, R.A. and P.B. Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.
- S. Ganguly - Public Finance
- Tyagi B.P - Public Finance
- Bhatia H.L. - Public Finance
- Lekhi R.K. - Public Finance
- Nathuramka L.N.- Money, Banking and Public Finance

**Paper 6.2 History – IV**

**HISTORY OF RAJASTHAN HISTORY FROM EARLIEST TIMES TO 1956 A.D.**

**Teaching Hrs. : L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30 External 70**

**Module : 1**

Main Sources of History of Rajasthan; An outline of Proto-Historic Rajasthan with special reference to Kalibanga, Ahar and Bairath; Outline of Matsya Janapad; Origin of Rajputs; Prithvi Raj Chauhan-III and his achievements.

**Module : 2**

The Policy of Collaboration and Resistance of the Rajput States with special reference to Hammir, Maharana Sanga, Maldeo, Maharana Pratap, Man Singh, Rai Singh of Bikaner, Jaswant Singh and Sawai Jai Singh.

**Module : 3**

Causes and Results of Maratha penetration in Rajputana; Circumstances and consequences of the treaties of 1818 A.D. signed with Britishers with special reference to Mewar, Marwar and Kota; War of Independence of 1857 A.D. in Rajasthan—Causes and results; Causes of political awakening in Rajasthan.

**Module : 4**

Peasant Movement in Bijolia; Tribal Movement under Govindgiri and Motilal Tejawat; Contribution of Prajamandals in the Freedom Movement with special reference to Bikaner, Jaipur and Marwar; Formation of Rajasthan in 1948-1956 A.D.

**Module : 5**

Characteristics of Feudalism in Rajput States; Changes in the position of the Rajput Nobility under British Paramountcy, Fort and Temple Architecture of Rajasthan; Rajasthani Art and Literature.

**Select Bibliography:**

- D.C.Shukla : Early History of Rajasthan
- Dashrath Sharma : Rajasthan Through the Ages.Vol.-I,Rajasthan State Archives, Bikaner.
- S.S. Saxena and Padmaja Sharma : Bijolia Kissan Andolan Ka Ithihas, Rajasthan State Archives Bikaner, 1972.
- V.P.Menon : Integration of the Indian State.

**Paper 6.3 Family Law – I (Hindu Law)**

**Teaching Hrs. : L-04**

**Total : 100**

**External 70**

**Exam Hrs. – 3**

**Marks : Internal 30**

**Module : 1**

**Introduction** - Sources, Schools and application, Religious and Charitable Endowment - Essentials of an Endowment, Kinds, Shebait and Mahant. **Joint Family**- Mitakshara joint family, Mitakshara coparcenary-formation and incidents, Property under Mitakshara law - separate property and coparcenary property, Dayabhaga coparcenary - formation and incidents, Property under Dayabhaga law, Karta of the joint family - his position, powers, privileges and obligations, Alienation of property - separate and coparcenary, Debts - doctrines of pious obligations and antecedent debt, Partition and re-union, Joint Hindu family as a social security institution and impact of Hindu Gains of Learning Act and various tax laws on it, Matrilineal joint family.

**Module : 2 Customary practices and State regulation**

**Hindu marriage Act, 1955:** Conditions of Hindu Marriage, its ceremonies and Registrations, Void and Voidable marriage, Polygamy, Concubinage, Child marriage, Restraint Act, 2007

**Matrimonial Remedies:** Restitution of conjugal Rights, Judicial Separation, Divorce Grounds, (a) Customary dissolution of marriage, divorce by mutual consent

Nullity of marriage : Bar to matrimonial relief : Marriage Act 1955

**Module : 3 Inheritance**

Historical perspective of traditional Hindu law as a background to the study of Hindu Succession Act, 1956

**The Hindu Succession Act, 1956 :** Definitions Succession to the property of a Hindu male. Succession to interest in coparcenary property, property of a Hindu female, Succession to the property of a Hindu female, General rules and disqualifications of succession, Escheat.

**Module : 4 Alimony and maintenance**

Maintenance of neglected wives, divorced wives, minor children, disabled children, and parents who are unable to support themselves; provisions under the code of Criminal Procedure, 1973, Alimony and maintenance as an independent remedy: a review under personal law, need for reforming the law, Alimony and maintenance as an ancillary relief, Legitimacy. Welfare of the child principle.

**The Hindu Adoption and Maintenance Act, 1956 :** Requisites of valid adoption, Capacity to take in adoption, capacity to give 'in' adoption, persons who may be adopted, other conditions for a valid adoption. Effects of adoption, Miscellaneous provision of adoption.

**Maintenance** of wife, children and parents, Maintenance of widowed daughter- in law, Dependents and their maintenance. Amount of maintenance, Miscellaneous provisions of maintenance.

**Module : 5**

**The Hindu Minority and Guardianship Act, 1956:** Natural guardians and their powers. Testamentary guardians and their powers, de facto guardian general provisions of guardianship.

**Partition:** Meaning, property for partition, persons entitled to claim partition and allotment of shares, partition how effected, Determination of Share, Reopening of partition. Re-union, Debts-Doctrine of pious obligation. Antecedent Debts.

**Establishment of Family Courts:** Constitution, power and functions, Administration of gender justice.

**Uniform Civil Code-need for:** Religious pluralism and its implications, Connotations of the directive contained in Article 44 of the Constitution, Impediments to the formulation of the Uniform Civil Code, The idea of Optional Uniform Civil Code.

**Leading Cases:**

- Shastri Yagna Purushdasji v. Muldas, AIR 1966 S.C. 1153.

- Hanooman Prasad v. Mussamat Babooee Mandraj Kunwaree (1856) 6 M.I.A. 305.

- Gita Hariharan v. Reserve Bank of India, AIR 1999 S.C. 1149.

- Bipin Chander v. Prabhavati, AIR 1957 S.C. 176.
- Dr.N.G. Dastane v. Sucheta Dastane, AIR 1975 S.C. 1534.

**Select Bibliography:**

- Mulla : Hindu Law
- Paras Diwan, Law of Intestate and Testamentary Succession (1998), Universal.
- Basu, N.D., Law of Succession (2000), Universal.
- Kusem, Marriage and Divorce Law Manual (2000) Universal.
- Manchanda, S.C., Law and Practice of Divorce in India (2000) Universal.
- P.V.Kane, History of Dharmasastras Vol.2 pt.1 at 624-632 (1974).
- A.Kuppuswami (ed.) Mayne's Hindu Law and Usage Ch.4(1986).
- B.Sivaramayys, Inequalities and the Law, (1985).
- K.C.Daiya, "Population control through family planning in India, "Indian Journal of Legal Studies, 85 (1979).
- J.D.M. Derrett, Hindu Law : Past and Present.
- J.D.M. Derrett, Death of Marriage Law.
- J.D.M. Derret, A Critique of Modern Hindu Law, (1970).
- Paras Diwan, Hindu Law (1985).
- S.T.Desai (ed.) Mulla's Principles of Hindu Law, (1998) - Butterworths-India.
- Paras Diwan, Family Law: Law of Marriage and Divorce in India, (1984).
- A.M.Bhattachargee, Hindu Law and the Constitution (1994) Eastern Law House, Calcutta.
- Paras Diwan, Law of Adoption, Ministry, Guardianship and Custody (2000), Universal.
- B.M. Gandhi.

**Paper 6.4 Family Law – II (Muslim Law)**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

**Module : 1**

**Evolution and application of Law:** Origin, Development, Sources, Schools, Application, Interpretation, conversion

**Marriage:** Nature of marriage, Essentials of marriage, Khyar-ul-bulug, Iddat, Khilwat-us-sahih, Matrimonial Stipulations, Kinds of marriages, Effects of marriages.

**Module : 2**

**Mahar (Dower):** Meaning, Nature, Kinds of Dower, Objects of Dower , Subject matter of Dower Wife's right on non-payment of dower.

**Dissolution of marriage:** Historical background, Talaq, Various kinds of Talaq Sec.2 of the Dissolution of Muslim Marriage Act, 1939., Legal Effect of Divorce.

**Module : 3**

**Pre-emption (Haq Shufa):** Meaning. Nature of Pre-emption., Classification of Pre-emption, Essential formalities. Subject matter of pre-emption., Devices for evading pre-emption.

**Gift (Hiba):** Meaning , Requisites of valid gift., Gift of musha , Conditional and future gift. Life estate and life interest., Hiba-bil-ewaj , Hiba-ba-shart-ul-ewaj.

**Module : 4**

**Will (Vasiyat):** Competency of testator and legatee., Valid subject of will., Testamentary limitation., Formalities of a will., Abatement of Legacy.

**Legitimacy and Acknowledgement:** Legitimacy and Legitimation., Presumption of Legitimacy under Sec.112 of the Indian Evidence Act. Conditions for valid acknowledgement.

**Maintenance** Meaning, Persons entitled to maintenance. Principles of maintenance. Maintenance of Divorced Muslim woman under the Muslim woman (Protection of Right on Divorce) Act 1986. Death Bed Transactions , Meaning of Marz-ul-maut.

**Module : 5**

**Waqf:** Meaning of waqf., Essentials of waqf. Kinds of waqf, Beneficiaries of waqf. Formalities for creating waqf. , Waqf of musha. Administration of waqf. Mutawalli - Appointment, function, role, power, removal. The waqf validating Act, 1913. Takia, Khankah

**Inheritance:** General Principles of Law of inheritance., Classification of heirs under Hanafi and their shares and distribution of property.

**Leading cases:**

- Maina Bibi v. Choudhary Vakil Anmad (1925) 52 La.145.
- Habibur Rahman v. Altaf Ali (1921) 481. A.114.
- Monshee Bazul-ul-Raheem v. Luteefutoon - Nissa (1861) 8 MIA. 379.
- Abdul Fata v. Russmoy Chaudhary (1894) 2ZIA76.
- Mohd. Ahmad Khan v. Shah Bano Begum AIR 1985 S.C. 945.

**Select Bibliography:**

- Fyzee, Muhammedan Law.
- Mulla, Principles of Mohammedan Law.
- A.M. Bhattacharygee, Muslim Law and the constitution.
- Prof. B.L.Verma, Islamic law.
- Dr. D.S. Thalore, Muslim Law, UBH Jaipur
- Akil Ahamed - Muslim Law

**Paper 6.5 Constitutional Law – II**

**Teaching Hrs.: L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

**Module : 1**

**Directive Principles and Fundamental Duties:** Directive Principles-directions for social change - A new social order. Interrelationship between fundamental rights and directive principles. Fundamental Duties – The need and status in constitutional set-up.

**Module : 2**

**The State Executive:** The Governor, The Council of Ministers, Relationship between the Governor and the Council of Ministers.

**The State Legislature:** Vidhan Sabha, Vidhan Parishad. The Panchyats The Municipalties.

**Module : 3**

**Union and State Relationship:**Legislative relationship, Administrative relationship Financial relationship.

**Module : 4**

State liability in contracts and Torts. Suits by and against the state. Property Rights (Article 300-A).

**Freedom of Trade, Commerce and Intercourse**

**Module : 5**

**The Amendment of the Constitution:** Necessity of Amending provisions in the constitution. ; Procedure for Amendment. Amendments of fundamental rights. Judicial review of amendment and the theory of Basic Structure. Temporary provision with respect of the state of J& K Union of India, AIR 1978 SC 1789

**Select Bibliography:**

- D.D. Basu, Introduction of the constitution of India, Prentice Hall of India, Delhi.
- H.M.Seervai, Constitution of India, Vol.1-3, Tripathi, Bombay.
- V.N.Shukla, Constitutional law of India, Oxford.
- G.Austin, Indian Constitution : Cornerstone of a Nation.
- M.P. Jain, Indian Constitutional Law, Wadhwa and Company, Nagpur.
- Kagzi, The Constitution of India, India Law House, N.Delhi.
- J.N.Pandey- Constitution of India (English)

**Paper 6.6 PUBLIC INTEREST LAWYERING;  
LEGAL AID AND PARA LEGAL SERVICES**

**Teaching Hrs. : L-04  
Total : 100**

**Exam Hrs. – 3  
Marks : Internal 30 External 70**

**Module : 1**

**Introduction:** PIL- its origin and meaning Scope and nature of PIL Object of PIL PIL and Private Interest Litigation

**Locus Standi:** Principle of locus standi- traditional approach Liberal approach Guidelines for entertaining a PIL Petition by public spirited person or association Misuse of PIL.

**Module : 2**

**PIL and enforcement of Fundamental Rights** General Compensation for breach of fundamental rights Compensation for illegal detention Compensation to victim of police atrocities. PIL as a redress to custodial violence cases. PIL and Environmental Law

**Module : 3**

**Pollution- a curse to mankind.**

Pollution free environment as a fundamental right. Enforcement of environmental laws through filing PIL.

**PIL for the enforcement of the rights of weaker sections of the society**

For the enforcement of the rights of women. For the enforcement of the rights of children. For the enforcement of the rights of bonded labour.

**Module : 4**

**Legal Aid :** Meaning, Nature, Scope, and Development Constitutional provisions ; Provision of civil procedure code and code of criminal procedure regarding legal aid The Legal Services Authorities Act and legal

**Drafting of PIL petitions and writing of applications for legal aid**

**Module : 5**

**The Legal Services Authorities Act, 1987 (as amended by the Act of 2002)**

The national legal services authority- constitution and functions State legal services authority- constitution and functions District legal services authority, Taluk legal services committee- constitution and functions Lok Adalat- organization, cognizances of cases, award and powers. Lre litigation, conciliation and settlement Permanent lok adalat- establishment, cognizance of cases, procedure and award

The Rajasthan State Legal Services Authority Regulations,1999- Legal literacy, legal awareness committee: Constitution and functions of High Court and District Legal awareness committee Organization of legal awareness camps by law schools Role of voluntary organizations

**Leading Cases:**

- Bandhua Mukti Morcha v. Union of India AIR 1984 SC 802, (1984) 3 SCC 161
- Olga Tellis v. Bombay Municipal Corporation (1985) 3 SCC 545, AIR 1986 SC 180
- Sukdas v. Union Territory of Arunachal Pradesh (1986) 2 SCC 401, AIR 1986 SC 991
- Sheela Barse v. State of Maharashtra AIR 1983 SC 378

**Select Bibliography**

- Dr. S.R. Myneni- Public Interest lawyering legal aid and para legal services
- Sujan Singh- Legal aid-human right to equality
- S.S. Sharma- legal assistance to Poor
- P.N. Bhagwati- legal aid as human right
- P.N. Bajpayee- Legal aid and the Bar council
- Sunil Deshtra- lok adalats in India- genesis and functioning
- Sampat Jain- Public Interst Litigation
- Dr. Kailash Rai- Janhit Vakalat, vidhik sahyog evam ardh vidhik sevayen.
- Suresh Bhatia- Nirdhan Vidhik Shayta, Rajasthan Hindi Granth Academy
- P.M. Bakshi- Public Interest Litigation

# **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2024-25)

4<sup>th</sup> Year (Semester –VII)

## **Paper 7.1 Political Science – IV**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

### **Module : 1**

Major Landmarks in the Constitutional Development of India, Framing of the Indian Constitution- Major Issues, Trends and Approaches of the Constituent Assembly; Preamble of the Constitution; Salient features of the Indian Constitution.

### **Module : 2**

Human Rights Philosophy in Indian Constitution; Fundamental Rights and Directive Principles of State Policy, Methods of Amendment of Constitution; Nature of the Federal System, Union-State Relationship and recent trends.

### **Module : 3**

The Union Executive; The Union Parliament, Working of Parliamentary System, The Supreme Court; The Judicial Review; Emergency Provisions.

### **Module : 4**

Office of the Governor, Chief Minister and High Courts, Role of Leadership, Coalition Govt., Party System, Election Commission, Electoral Politics and Electoral Reforms.

### **Module : 5**

National Integration: Major problems facing Indian Political System- Terrorism, Linguism, Regionalism, Communalism, Politics of Reservation; Role of Caste in Indian Politics.

## **Paper 7.2 Administrative Law**

**Teaching Hrs.: L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

### **Module : 1**

**Evolution, nature and scope of Administrative Law-** from a laissez faire to a social welfare state, evolution of administration as the fourth branch of government, conseil'detate, definition and scope of Administrative Law, relationship between Constitutional Law and Administrative Law, separation of powers and rule of law.

**Civil services in India:** Nature and organization of civil services:

### **Module : 2**

**Delegated Legislation:** Necessity constitutionality of delegated legislation- and its limitations, powers of exclusion, inclusion and power to modify statute, procedure, Legislative and judicial control of delegated legislation, sub-delegation of legislative powers.

### **Module : 3**

**Judicial powers of administration:**

(i) Administrative tribunals-need, nature, constitution, jurisdiction and procedure. Distinction between quasi-judicial and administrative functions.

(ii) Principles of natural justice- the right to hearing- essential of hearing process, noman shall be judge in his own cause, no man shall be condemned unheard, reasoned decisions, the right to counsel.

### **Module : 4**

**Judicial control of administrative action:** grounds-jurisdictional error, ultravires, abuse and non exercise of jurisdiction, error apparent on the face of record, violation of principles of natural justice, violation of public policy, unreasonableness and legitimate expectation. Remedies in judicial review, writs, declaratory judgments and injunctions, specific performance and civil suits for compensation.

**Administrative discretion:** Need for administrative discretion, administrative discretion and rule of law, limitations on exercise of discretion-malafide exercise of discretion, constitutional imperative and use of discretionary authority.

### Module : 5

**Contractual and tortious liability of state:** Tortious liability, sovereign and non sovereign functions, statutory immunity, act of state, contractual liability of government, government privilege in legal proceedings-state secrets, public interest, transparency and right to information.

**Corporation and Public undertakings:** State monopoly, liability of public and private corporations- departmental undertakings, legislative and governmental control, legal remedies, accountability- committee on public undertakings, estimate committee.

**Public inquiries and commission inquiry, ombudsman:** lokpal, lokayukta, vigilance commission, parliamentary committees.

#### Leading cases:

- A.K. Kraipak v. Union of India AIR 1970 SC 150
- In re Delhi Laws Act, AIR 1951 SC 332
- Raj Narayan v. Chairman, Patna Administration Committee Patna AIR 1954 SC 569
- Syed Yaqoob v. Radha Krishnan AIR 1964 SC 477
- Rohtash industries Pvt Ltd v. S.D. Agarwal AIR 1969 SC 707
- State of Karnataka v. Union of India AIR 1978 SC 68

#### Select Bibliography:

- M.C.J kagzi- The Indian Administrative Law
- I.P. Massey: Administrative Law
- D.D. Basu: Administrative Law
- M.A. Fazal: Judicial control of Administrative action in India, Pakistan and Bangladesh
- Wade: Administrative Law
- S.P. Sathé: Administrative Law
- U.P.D. Kesari: Prashasnic Vidhi
- Jain and Jain- Principles of Administrative Law
- J.J.R. Upadhyay- Prashasnic Vidhi

### Paper 7.3 Taxation Law

Teaching Hrs. : L-04

Total : 100

Exam Hrs. – 3

Marks : Internal 30 External 70

#### Module : 1

**Basic concept:** Assessment year, Previous year, Person, Assessee, Income , Agricultural Income, Casual Income, Capital Asset, Charitable purpose, Total Income, Gross Total Income, step system and slab system, Capital and Revenue, Avoidance of tax and tax evasion, Income tax authorities. Residential; status and Tax Incidence– Exemptions and deductions of Income.

**General Perspective:** History of tax law in India, fundamental principles relating to tax laws, concept of tax, nature and characteristics of taxes, distinction between tax and fees, tax and Access, direct and indirect taxes, tax evasion and tax avoidance, scope of taxing powers of parliament, state legislature and local bodies.

#### Module : 2

Income Tax Act, 1961, Income under the Head `Salaries' Income from House Property, Income of other persons included in Assessee's Total income.

#### Module : 3

Profits and Gains of Business or Profession, Depreciation allowance, Capital Gains, Income from other sources, Set off and carry forward of losses.

#### Module : 4

Return of Income, Assessment and Re-assessment, Assessment of Firms and Partners and Penalties offences and prosecution under this Act, Appeal and revision.

#### Module : 5

**Wealth Tax Act:** Valuation date, Net Wealth, Incidence of Tax, Assets, Assets exempted from Tax Return of Wealth, Assessment, Time limit for completion of assessment.

Key Features of Central Goods And Services Tax Act, 2017

**Leading Cases:**

- P. Krishana Menon v. CIT, AIR 1956 SC 75
- CIT West Bengal v. Benoy Kumar Saha Roy, AIR 1957 SC 761
- Mala Ram & Sons v. CIT AIR 1956 SC 367
- Pingle Industries Ltd v. CIT AIR 1960 SC 1934
- Banaras Cloth Dealers Syndicate v. Benaras 1964 ITR 50
- CIT v. Kothari (1963) 40 ITR 107 (SC)

**Select Bibliography:**

- Ramesh Sharma, Supreme Court on Direct taxes
- Kanga and Palkiwala, The Law and practice of Income Tax
- R.V. Patel, The Central Sales Tax Act
- S.D. Singh, Principles of Law of Sales Tax
  
- H.C. Malhotra, Aykar Vidhan Lekha
- Bhagwati Prasad, Aykar Vidhi
- S. Bhattacharya : Indian Income Tax Law and Practice.
- A.K. Saxena : Law on Income tax in India.
  
- Nathulal Jain : Ayakar Vidhi.
- Kailash Rai : Ayakar Vidhi.

**Paper 7. 4 Law of Crimes (Indian Penal Code)**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

**Module : 1**

**General Introduction:** Concept of crime: Its definition, nature and scope. Distinction between crime and other wrongs. Applicability of IPC: Intra and Extra territorial operation. Salient features of the IPC, general explanations.

**Elements of criminal liability:** Mental elements in crime- mensrea (evil intention), its importance and exceptions. (Trends to fix liability without mensrea). State's power to determine acts or omissions as crime.

**Types of Punishment:** Death punishment, its impacts and social relevance. Alternative to capital punishment; imprisonment for life with hard labour, simple imprisonment; Forfeiture of property and fine. Discretion of Court in awarding punishment. Minimum punishment in respect of certain offences.

**Stages of a crime:** mere intention not punishable, preparation, attempt- tests for determining what constitutes attempt- proximity, equivocality and social danger, impossible attempts.

**Module : 2**

**General Exceptions:** Factors negative guilty intention: Mistake of fact not of law; judicial act, accident, necessity, minority and insanity; (Impairment of cognitive faculties, emotional imbalance) medical and legal insanity; Intoxication. Private defence justification and limits when private defence extends to causing of death to protect body and property.

**Module : 3**

**Group Liability:** Common intention, unlawful assembly and common object. Abetment: instigation, aiding and conspiracy. Mere act of abetment punishable. Provisions relating to criminal conspiracy. Riot and affray.

**Offences against the state-**waging war against the state and sedition. Offences against public servant and public justice, Contempt of lawful authority of public servants; giving and fabricating false evidence and aggravated form of the crime.

**Module : 4**

**Specific offences against Human Body :**

(i) Culpable homicide, murder, distinction between culpable homicide and murder. Situation

justifying treating murder as culpable homicide not amounting to murder-grave and sudden provocation, exceeding right of private defence, public servant exceeding legitimate use of force, death in sudden fight, death caused by consent of the deceased- euthanasia and surgical operation. Death caused of person other than the person intended. Rash and negligent act causing death.

- (ii) Hurt- simple and grievous
- (iii) Wrongful restraint and wrongful confinement
- (iv) Criminal force and assault
- (v) Kidnapping and abduction.

**Offences against women:-**

- (i) Insulting the modesty of a woman, assault or criminal force with intent to outrage the modesty of a woman.
- (ii) Miscarriage: Causing miscarriage without women's consent and causing death by miscarriage without women's consent.
- (iii) Kidnapping or abducting woman to compel her to marry or force her to illicit
- (iv) Buying or selling a minor for purposes of prostitution.
- (v) Rape- custodial rape, gang rape, marital rape, unlawful sexual intercourse.
- (vi) Prevention of immoral traffic and prevention of sati
- (vii) Cruelty by husband or his relative
- (viii) Dowry death
- (ix) Prohibition of indecent representation of women

**Protection of Women from Domestic Violence Act, 2005:** Definitions, Power and duties of protection of officers and service providers, Application to Magistrate, Protection orders, Residence orders, Custody orders, Compensation orders and Monetary reliefs, Penalty for breach of protection orders by respondent.

**Module : 5**

**Offences against property-** theft, extortion, robbery, dacoity, criminal misappropriation of property, criminal breach of trust, cheating, mischief and criminal trespass

**Offences relating to documents:** Forgery or making a forged document

**Offences relating to marriage:** Bigamy, marriage or fraudulently gone through without lawful marriage, adultery, enticing or deceiting a married woman.

**Defamation:** definition and exceptions

**Leading cases:**

- Reg v. Govinda IR 1876 1 BOM 342.
- Kedarnath v. State of Bihar AIR 1962 SC 955
- T.D. Vadgama v. State of Gujrat AIR 1973 SC 2313
- Velji Ragahvi v. State of Maharashtra AIR 1965 SC 1433
- K.N. Nanavati v. State of Maharashtra AIR 1962 SC 605

**Select Bibliography:**

- Dr. Hari Singh Gour : Penal law of India
- Rattan Lal and Dhirajlal: The Indian Penal Code
- Dr. S.N. Mishra : The Indian Penal Code
- O.P. Srivastava : Principles of Criminal Law
- P.S. Achuthan Pillai: Criminal law
- T. Bhattacharya: Bhartiya Dand Sanhita
- K.D. Gaur : Cases and Materials on Criminal Law
- M.P. Tondan : Indian Penal Code

**Paper 7.5 Procedure Law – I (Cr.P.C.)**

**THE CODE OF CRIMINAL PROCEDURE, 1973, JUVENILE JUSTICE ACT, 2015 AND PROBATION OF OFFENDERS ACT, 1958**

**Teaching Hrs.: L-04**  
MGSU BIKANER

**Exam Hrs. – 3**

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**Module : 1 The Code of Criminal Procedure, 1973**

**Preliminary:**

- (a) Object, Extent and definitions (Chapter 1)
- (b) Duties of Public: (i) To assist to police and Magistrate (ii) To give information about certain offences (Chapter IV Ss. 37 to 40)

**Criminal Courts:**

- (a) Territorial divisions and Classifications (Chapter II, Ss 6 to 25).
- (b) Powers (Chapter III, Ss. 26 to 31).

**Module : 2**

**Pre-Trial Procedure :**

- (a) Arrest of Persons (Chapter V)
- (b) Process to compel appearance (Chapter VI).
- (c) Process to compel Production of things (Chapter VII).
- (d) Information to the Police and their powers of Investigation (Chapter XII)
- (e) Bail (Chapter XXXIII).
- (f) Jurisdiction of the courts in inquiries and trials (Chapter XIII); Order to furnish security for keeping peace and good behaviour (ss. 106-124)
- (g) Maintenance of Public Order and Tranquility (Chapter-X) Conditions requisite for initiation of proceedings, Complaints to Magistrates, Cognizance of Offence and Charge (Chapter XIV, XV and XVII).

**Module : 3**

- Types of Trials.**
- (i) Trial before Court of Session (Chapter XVIII).
  - (ii) Trial of Warrant and Summons Cases (Chapter XIX & XX)
  - (iii) Summary Trials (Chapter XXI)
  - (iv) Maintenance of Wife, Children and Parents (Sec. 125 to 128).

**Module : 4 Judgment (Chapter XXVII)**

- (a) Appeal (Chapter XXIX) Reference and revision (Chapter XXX).
- (b) Misc. Provisions:
  - (i) Irregular proceedings (Chapter XXXV)
  - (ii) Period of Limitation (Chapter XXXVI)
  - (iii) Autrefois acquit and Autrefois convict (Sec 300).
  - (iv) Legal Aid to the accused at State Expenses (S. 303 & 304)
  - (v) Pardon to an accomplice (Sec 306 to 308)
  - (vi) Saving of Inherent powers of High Court (Sec. 482).

**Module : 5 The Juvenile Justice Act, 2015.**

Definitions, Competent authorities and institutions for juveniles, Neglected Delinquent Juveniles. Procedures and competent authorities, special offences in respect of juveniles.

**Probation of offenders Act, 1958:**

Definitions, Power of court to require released offenders after admonition on probation of good conduct, power of Court to require released offenders to pay compensation under twenty one years of age, Variations of conditions of probation, Probation in case of 'Offender' failing to observe conditions of bond, provision as to sureties, Probation Officers, Duties of Probation Officers.

**Leading Cases :**

- Tehsildar Singh v. State of UP , AIR 1959 SC. 1012
- State of U.P. v. Singhara Singh, AIR 1964 SC 359.
- Nisar Ali v. State of U.P. AIR 1957 SC 336.
- Purshottam Das Dalmia v. State of West Bengal, AIR 1961 SC. 1589.
- State of Andhra Pradesh v. Cheemalapati Ganeshwara Rao, AIR 1963 SC 1850
- Satwant Singh v. State of Punjab, AIR 1960 S.C. 266.

**Select Bibliography :**

- Ratan Lal : Criminal Procedure Code.

- Ganguly, A.C. : A Guide to Criminal Code Practice.
- The Juvenile Justice (care and Protection of children) Act,2000.
- Probation of Offenders Act, 1958.
- Chakravarti, N.K. - Probation system - in the Administration of Criminal justice.
- Tiwari Y.K.- CR.P.C (Hindi)
- Jain P.C.- CR.P.C (Hindi)
- M.D. Chaturvedi- CR.P.C etc. (Hindi)
- B.L. Babel- CR.P.C (Hindi)

**Paper 7.6 Procedure Law – II (C.P.C.)**

**THE CODE OF CIVIL PROCEDURE 1908 AND THE LIMITATION ACT, 1963**

**Teaching Hrs. : L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30**

**External 70**

**Module : 1**

Definitions, suits in general, suits of civil nature, stay of suit, Res judicata, Res subjudice, Foreign Judgment.

**Module : 2**

Place of trial, Transfer of suits, Joinder, non-joinder and mis-joinder of parties and causes of action, Service of Summon, Attachment before judgment, Arrest before Judgment. Supplemental proceedings.

**Module : 3**

**Execution in general:** Courts by which decrees may be executed, powers of the court executing the decrees. Transfer of decrees for execution and modes of execution, Stay of execution, Suits in particular cases (Orders xxix to xxxiii). Abatement of suits, summary proceedings.

**Module : 4**

Temporary injunction and Appointment of Receiver, Appeals-Appeals against order and appeal against decree, Review. Revision and Reference, Transfer of cases, Restitutions, Caveat, Inherent powers.

**Module : 5**

The Limitation Act, 1963 (Omitting the Schedule) Definitions : Purpose, Policy, Scope, Applicant, bond, Defendant, easement, good faith, plaintiff, period of limitation Relationship between limitation, laches, acquiescence, estoppels and res judicata; Limitation of suits, appeals and applications, disability, computation of period of limitation, acknowledgement and part payment, acquisition of ownership by prescription

**Leading Cases:**

- Shri Sinha Ramanuja v. Ranga Ramanuja, AIR 1961 SC 1720.
- Seth Hukamchand v. Maharaja Bahadur Singh AIR 1933 PC 193
- Narain Bhagwant Rao v. Gopal Vinayak AIR 1960 SC 100
- Garikapati Veerava v. Subbiah Chaudhary, AIR 1957 SC 540.
- Deoki Nandan v. Murlidhar, AIR 1957 SC 133.
- Deity Pattabhirama Swamy v. Hanmayya, AIR 1959 SC 57.
- S.M. jakati v. B.M. Borker, AIR 1959 S.C. 282.

**Select Bibliography:**

- Mulla- Civil Procedure Code.
- Singh S.N. - Civil Procedure Code.
- Sahai on Civil Procedure.
- Tandon, M.P. - Civil Procedure Code (English & Hindi)
- Mridula Srivastava - Civil procedure Code (Hindi)
- A.N. Pandey - Civil Procedure Code (Hindi)
- C.K. Tekwani- Civil Procedure Code
- T.P. Tripathi- Civil Procedure Code (Hindi) Limitation ACT

# **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2024-25)

4<sup>th</sup> Year (Semester –VIII)

## **Paper 8.1 Sociology – IV**

### **Social Problems in Contemporary India**

**Teaching Hrs. : L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

#### **Module : 1**

**Social Problem:** meaning, concept and types. Crime and Delinquency: meaning, causes, types, theories and remedies.

#### **Module : 2**

**Issue of Population during 20th Century:** Population Problem, Population Education and programmes of control. Population Control -measures, causes for success and failure. Issue of Population in 21st Century: Demographic Dividend

#### **Module : 3**

Problem of Youth, Drug Abuse and AIDS, Problems of Women in India. Women Empowerment, Female foeticide.

#### **Module : 4**

Poverty, Unemployment and Illiteracy: causes forms and remedies. Human rights and Social Problems. Environment degradation and solutions.

#### **Module : 5**

Social Problems of special groups in India-The Scheduled castes, Scheduled Tribes and Other Backward classes. Problems of Minorities and Communalism.

#### **Select Bibliography:**

- Ahuja Ram.: Social Problems in India, Jaipur, Rawat. Beteille,
- Andre. 1974.: Social Inequality, New Delhi, Oxford University Press. Beteille,
- Andre. 1992.: Backward Classes in Contemporary India, New Delhi, Oxford University press. Berreman,
- G.D.1979.: Caste and other Inequalities: Essay in Inequality. Meerut, Folklore Institute.
- Guha, Ranjit, 1991. : Subaltern Studies, New York: Oxford University Press. Kothari,
- Rajni (Ed)1973.: Caste in Indian Politics Madan,
- G.R.: Social Problems in India. Madan, T.N. 1991.: Religion in India, New Delhi, Oxford University Press. India Year Book, NBT, New Delhi.

## **Paper 8.2 Jurisprudence**

**Teaching Hrs.: L-04**

**Total : 100**

**Exam Hrs. – 3**

**Marks: Internal 30 External 70**

#### **Module : 1**

**Introduction:** Meaning, definition, nature, scope and importance of Jurisprudence.

**Norms and the normative System:** Different types of normative systems, such as of games, language, religious orders, unions, clubs and customary practice. Legal systems as a normative order: similarities and difference of the legal system with other normative systems. Law: Nature and definition given by different jurists.

#### **Module : 2**

**Schools of Jurisprudence:** Analytical positivism, Natural Law School, Historical School, Sociological School Economic Interpretation of Law, Realist School.

**The Indian Jurisprudence:** Origin and its nature, The concept of 'Dharma'

#### **Module : 3**

**Purpose of Law:** Justice, meaning and kinds, Justice and law: Approaches of different schools; Power of the Supreme Court of India to render complete Justice in a case with special reference to Article 142. Critical studies, Feminist Jurisprudence.

**Sources of Law :** Customs, legislations, judicial precedent and Juristic writings as a source of law.  
Concept of Stare decisis, obiter dicta and Ratio decidendi.

#### **Module : 4**

**Persons:** Nature of personality, status of the unborn, minor, lunatic, drunken, dead person, idol and mosque; corporate personality- Corporate sole and corporate aggregate; dimensions of the modern legal personality of non-human beings.

**Possession:** Concept and kinds of possession.

**Ownership:** The concept, kinds. Relation between possession and ownership.

#### **Module : 5**

**Concept of legal rights,** its kinds and right-duty correlation.

**Title:**

**Property:** Concept and kinds of property.

**Liability:** Conditions required for imposing liability, wrongful act-damnum sine injuria and injuria sine damnum. Causation, mensrea, intention, motive. Malice, negligence and recklessness. Strict and vicarious liability.

**Obligation-** nature, kinds and sources of obligation.

**Procedure:** difference between substantive and procedural laws. Evidence-nature and kinds. Theory of Punishment, Administration of Justice, Capital Punishment.

**Leading Cases:**

- Keshavanand Bharti Vs State of Kerala, AIR 1973 SC 1461 (Per Mathew J.)-Paras 1617-1620 (Sovereignty)

1685-1698 (Natural Law and Natural rights) 1726-1729 (Roscoe pound and Sociological Jurisprudence) 1738-

1751 (Property rights and Social Justice).

- A.K. Gopalan Vs State of Madras, AIR 1950 SC 27 (S.970 paras 18, 19 Per Kania C.J.) Paras 107-109 (Per

Patanjali Shastri) Para 192 (Per Mukherji J.) Paras 228 (Per Das J. Natural Law and Positive Law)

- Maharaja Shree Ummed Mills Ltd Vs Union of India, AIR 1963 SC 953 Paras 12, 13, 14 (Per SK. Das J.)  
Concept of Law; Legislative agreements)

- Jaipur Udyog Ltd Vs Income Tax Commissioner, AIR 1965 Raj 162 Paras 12, 13, 14 (Per Tyagi J.)  
(Sovereignty, Separation of powers and functions).

- Shrimati Indira Nehru Gandhi Vs Raj Narayan, AIR 1975 SC 2299 Paras 219 and 299 (Per Mathew J.)  
(generally as a property of law.)

- In Re Article 143 (Keshav Singh) AIR 1965 SC 745 paras 9-17 (Per sarkar J. Law making by judicial and legislative comity).

- Bengal Immunity Co. Vs State of Bihar, AIR 1955 SC 661 (Precedent)

- Trilokchand Motichand V. H.B Munshi AIR 1970 SC 898 (Para 4 to 11, per Hidayatulla CJ.) Para 36 per Bhachawat J.; Para 59-63 per hegde J.). These excerpt illustrate problems and uses of Hohfeld analysis.

- Menka Gandhi Vs Union of India, AIR 1978 SC 597

**Select Bibliography:**

- Salmond: Jurisprudence

- Dias: Jurisprudence

- Wayne Morrison: Jurisprudence

- Julius stone: The province and function of Law

- Holland: Jurisprudence

- S.N. Dhyani: Jurisprudence- A study of Indian Legal Theory

- N.V. Paranjape: Vidhi Shastra

- V.D. Mahajan, Jurisprudence and Legal theory

- Bodenheimer Jurisprudence- The Philosophy and method of law.

- Mulla- Hindu Law

- Mani Tripathi- Jurisprudence (Hindi)

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**Paper 8.3 ARBITRATION, CONCILIATION AND ALTERNATIVE DISPUTES RESOLUTION SYSTEMS**

**Teaching Hrs. : L-04  
Total : 100**

**Exam Hrs. – 3  
Marks : Internal 30 External 70**

**Module : 1**

**Arbitration and Conciliation Act, 1996:** General provisions: Arbitration agreement; Arbitral Tribunal : Composition and Jurisdiction; Conduct of Arbitral Proceeding.

**Module : 2**

**Arbitral awards:** Termination of proceedings, setting aside the Arbitral award; Enforcement of Arbitral awards, Appeals; Code of ethics for Arbitrators.

**Module : 3**

Enforcement of Foreign-awards; Geneva Convention International arbitration institutions Conciliation: conciliators, appointment of conciliators, relationship of conciliators with the parties, settlement agreement status and effect of settlement agreements. Terminations of conciliation proceedings, resort to judicial proceedings, cost and deposits.

**Module : 4**

**Alternative dispute & resolution system:** Objects and role of committee for implementation of legal aid schemes (CILAS). The Legal services authorities act, 1987 (as amended by the act of 2002)- The national legal service authority, State legal service authority and District legal service authority-constitution and functions;

**Module : 5**

**Lok Adalat:** Organisation, cognizance of cases, award and powers. Permanent Lok Adalat-establishment, cognizance of cases, procedure and award. Study of other alternative dispute resolution system in brief such as Nyay Panchayat and Family courts.

**Leading Cases:**

- Sundaram Finance Ltd. v. NIPC India Ltd. (1999) 2 SCC 479
- NMTC Ltd. v. Sterlite Industries Ltd. 1996(4) SCC 219
- Lotus Investment and Securities v. Pramod S. Tiberwal 1996(2) SCC 579
- State of Rajasthan v. Bharat Construction Co. 1998 (4) CCs 172 (Raj.)

**Selected Bibliography:**

- G.C. Mathur, Arbitration and Conciliation Act, 1996.
- S. Krishnamurthy: Law of Arbitration and Conciliation.
- P.M.Bakshi: Arbitration Law.
- O.P. Tiwari: The Arbitration and Conciliation Act, 1996
- Avtar Singh: Law of Arbitration and Conciliation.

**Paper 8.4 Law of Evidence**

**Teaching Hrs. : L-04  
Total : 100**

**Exam Hrs. – 3  
Marks : Internal 30**

**External 70**

**Module : 1**

**Preliminary:** Application of Indian Evidence Act. Definitions: Court, fact-fact in issue and relevant fact, evidence - meaning and its kinds, proved, disproved, not proved, may presume, shall presume and conclusive proof, Presumptions of fact and law, presumptions regarding documents. Relevancy of facts : Explaining Res-gestae, occasion, cause, effect; motive, intention, preparation, previous and subsequent conduct, introductory and explanatory facts, facts not relevant when become relevant, accidental and incidental facts. Facts which need not be proved, improper admission and rejection of facts.

**Module : 2 Admission and Confession**

(a) Admission: Definition, whose admission is relevant, relevancy of admission in civil cases, admission is not conclusive proof. Admission and Estoppel.

- (b) Confession: definition, its kinds, confession caused by inducement, threat or promise, confession to police officer, confession in the custody of police, confession to Magistrate, confession by co-accused.
- (c) Difference between admission and confession, Relevancy of statements.
- (d) Dying Declarations: The justification for relevance on dying declarations (Section 32), The judicial standards for appreciation of evidentiary value of dying declarations. Other Statement by Persons who cannot be called as Witnesses: General Principles, Special problems concerning violation of women's rights in marriage in the law of evidence.

### Module : 3

**Statement made under special circumstances.**

**Relevancy of judgement of a court of law.**

**Opinion of third person.**

**Opinion of experts / third person.**

**Relevancy of character**

**Evidence:** Oral evidence, documentary evidence, kinds of documentary evidence, when secondary evidence is relevant. Public and private document. Exclusion of oral evidence by documentary evidence: Application of this principle and its exceptions, ambiguous documents, kinds of ambiguity.

### Module : 4

**Burden of Proof:** Meaning, general principles of burden of proof in civil and criminal cases and exceptions to it. When burden of proof shifts, proof of legitimacy of child, proof in dowry deaths and in the matters of rape.

**Estoppels:** meaning, essentials, nature and its kinds. Competency of witnesses, when a person can be compelled to appear as witness, privileged communications and documents, accomplice, hostile witness.

### Module : 5

**Examination of Witnesses:** Order of examinations. kinds of examinations. leading question, impeaching the credit of witness, questions which can and which cannot be asked, refreshing the memory of witness, production of documents, Judge's power to put questions and to order production. Effect of improper acceptance or rejection of evidence.

**Leading Cases:**

- Nishi Kant Jha v. State of Bihar, AIR 1969 SC 422.
- Himachal Pradesh Administration v. Om Prakash AIR 1972 SC 975.
- Sat Paul v. Delhi Administration, AIR 1976 SC 294.
- Laxmipat Chorasias v. State of Maharashtra, AIR 1968 SC 938.
- Pakala Narayan Swami v. Emperor, AIR 1939 PC 47.
- Bhardwade Bhogin Bhan Herrji Bhai v. State of Gujarat AIR 1988 SC 753.
- RM Malkani v. State of Maharashtra, AIR 1973 2SCR 417

**Select Bibliography:**

- Ratan Lal & Dhiraj Lal-The law of Evidence
- Batuklal- Law of Evidence
- Vepa P. Sarathi - Law of Evidence
- Raja Ram Yadav- Law of Evidence

## Paper 8.5 DRAFTING, PLEADING, CONVEYANCING AND MOOT COURT TRIAL

**Teaching Hrs. : L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30 External 70**

### Module : 1

**Pleading:** Meaning, Kinds; Fundamental principles of pleading and their exceptions, amendment of pleadings, alternate and inconsistent pleadings Doctrine of set-off: Legal set-off and equitable set-off

### Module : 2

**Drafting of pleadings Civil:** Plaints, written statement, Original Petition, Affidavit, Notice, Execution Petitions, Memorandum of Appeal, Execution of Writ Petition. and Judgement writing

### Module : 3

**Criminal complaints, Bail Application, Accused Reply, criminal Miscellaneous Petition, Appeal, Reference and Revision.**

#### Module : 4

**Conveyancing:** Meaning, General Rules of Conveyancing, Salient parts of conveyancing, rules relating to the drafting.

#### Module : 5

**Drafting of Deeds:** Partnership deed, mortgage by conditional sale, notice for eviction, writing of government contract, sale deed, Mortgage Deed, Gift Deed, Lease Deed, Rent Deed, Power of Attorney, Promissory Note and will.

#### Paper 8.6 MOOT COURT and MOCK TRIAL

Teaching Hrs. : L-04

Exam Hrs. – 3

Total : 100

Marks : Internal 100

Moot Courts The teacher teaching this course will supply three Moot Court problems to the students in the course of a single semester requiring them to work on all three problems assigned to them, prepare written submissions (memorials) and present oral arguments in a moot court setting. 30 marks for this component are divided equally between written submission and oral arguments.

Students may be asked to work in teams at the discretion of teacher. Each student will prepare a case only on one side.

##### A. Rules of Memorial submissions:

1. Each student/team must submit one typed and bound copy of the memorial on either side no later than the date fixed and announced in the class. Memorials will not be accepted after the prescribed date and time and the student will lose the marks assigned for that assignment.

2. Memorial specifications:

(a) Memorials must be printed on A4 size white paper with black ink on both sides of the paper. (b)

The body of the memorial must be in Fonts Times New Roman, Size 12 and footnotes in Fonts Times New Roman in Size 10.

(c) Each page must have a margin of at least one-inch on all sides. Do not add any designs or borders on the pages.

(d) Memorials should be submitted with differently colored Title Page for each side: Title page in red colour for Petitioner/Appellant. Title page in blue colour for respondent.

(e) The Memorial should not exceed 20 typed pages (line space 1.5) and shall consist of the following Parts:

- Table of Contents • Statement of Facts • Statement of Jurisdiction List of References and Cases
- Statement of Issues • Summary of Arguments • Detailed Pleadings • Prayer • Affidavit, if necessary

(f) Relevant Annexure may be kept by the student and may be used during oral arguments, if necessary.

**B. Rules of Oral Arguments:** • Court Language shall be English. • Each student would be given 10 minutes to present their oral arguments • Judges may, at their discretion extend oral argument time, up to a maximum of 5 minutes. • Rebuttal would be allowed only to the petitioner and they would have to specify in the beginning the time they want to set apart for rebuttal.

**C. Evaluation:** The oral performance will be evaluated on the basis of communication skills, application of facts, persuasion / use of authorities, and response to questions.

**Mock Trial:** The students would be required to conduct trial in two cases, one Civil and one Criminal during the course of the semester. The students will be divided in teams of lawyers and witnesses. Each student will be required to function as a lawyer and witness in the trials being simulated in the classes. Students' performance will be evaluated on the basis of equal marks being assigned for case analysis, written submissions, Examination-in-chief, Cross-examination, and final arguments. 5 marks will be assigned for performance as witnesses.

# B.A. LL.B. 5 YEAR INTEGRATED

(HONOURS COURSE FOR SESSION 2025-26)

5<sup>th</sup> Year (Semester –IX)

## Paper 9.1 Forensic Science

Teaching Hrs. : L-04

Total : 100

Exam Hrs. – 3

Marks : Internal 30 External 70

### Module : 1

1. Different areas of Forensic Science.
2. Role & Scope of Forensic Science
3. Forensic Identification
4. Forensic Toxicology
5. Post Mortem Investigation
6. Forensic Analysis in Criminal Investigation  
Constitutional & Legal Issues  
Provisions Under Cr.P.C.
7. Medical Opinion:  
F.I.R., Evidently Value of statements recorded under section 161&164 of Cr.P.C.,  
Confession, Dying Declaration, Case Diary, Expert Opinion, Value of Medical Opinion

### Module : 2

#### Medical Negligence & Consumer Protection Act

Negligence, Negligence & Its relation with 'Copra', Definitional Aspects, Civil & Criminal Negligence, Degree of Negligence.

#### Human Right And Medicine

Forensic Science in the service of Human Rights

Forensic Science Services and the crime scene Investigation Process

**Types of Torture:** Impalement, Neck Torture, Crucifixion, Rape Torturer, Forens Readiness & Forensic Readiness

### Module : 3

1. **Medico Legal Aspects of Injuries:** Types of Injuries, Opinion of Medial Officer  
**Injuries caused by:** Knife, Sharp edged weapon, Sharp edged heavy cutting weapon and built weapon like stone.
  - a. **Medico Legal Aspects of Wound:** Incised wound, Lacerated wound / Inside wound distinction, Injuries of the head and spine cranio-cerebral injury/

### Module : 4

1. **Death :** Definition, Notification certification, registration presumption  
**Mode of Death:** Asphyxia, Hanging, Strangulation, Suffocation Drowning, Throttling
2. **Post-Mortem Examination:** Special Investigation in purified bodies, Staining, Method of making a post mortem examination for medico legal purpose, Internal Examination of Body, Post mortem Report

### Module : 5

1. **Test Tube Techniques:** Types, Issues of Adultery, Divorce, Nullity of Marriage (Voidable), Issues of morality or test tube insect, Issues of Legitimacy, Issues of Surrogacy, Issues of Health Risk to baby, ICMR Guidelines for IVF Clinics, Determination of states of the Child, IVF – ET, Invitro Culture Media.
2. **DNA Legislation:** DNA Profiling, Evidence Examination, Importance of Profiling in forensic Science, DNA Profiling V/S Finger Prints, Identifying victims using DNA., U/S-53 Cr.PC: Examination of accused, does not apply to complaint case, suggestion for legal reforms in effective application of DNA technology in our country.
3. **Narco Analysis:** Concept in view of constitutional law & Human Rights, Efficacy
4. **Polygraph Test:** Polygraph Test, Limitation of Polygraph text, Utility: in investigation & Judicial Process, Admissibility of Polygraph Test.

## **Paper 9.2 COMPARATIVE CRIMINAL PROCEDURE**

**Teaching Hrs.: L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30 External 70**

### **Module : 1**

Introduction to Criminal Justice Process, Historical Evolution of Criminal Justice System, Common Law System v. Civil Law System, Adversarial model, Inquisitorial model, Hierarchy of criminal courts and their jurisdiction, Nyay Panchayat in India., Prosecutors in India and their counterparts.

### **Module : 2**

Role of the Police and its powers, Role of the Police and its obligations under the Cr.P.C, Police Powers in England- Power of Stop, entry, search, arrest and detentio, Police Powers in the USA-From 4th Amendment to 14th Amendment to the US Constitution. Rights of the arrestee. Power to stop, frisk, search, seizure and arrest, Policing in Continental Countries.

### **Module : 3**

Investigation, Charging Process, Prosecution of Case, Framing of Charge under the Cr.P.C, Charging Process and case management under the UK system, Prosecution of a Criminal case, Charging Process in the USA. Role of the prosecutor and charging decision, Criminal Investigation in Continental Countries.

### **Module : 4**

Fair Trial Procedure and Stay of Prosecution, Concept of Fair Trial under the Indian Constitution, Stay of proceedings under the Cr.P.C, Abuse of Process and Stay of Prosecution under the UK System, Fair Trial Principles under US Constitution. Pre-Trial Motions.

### **Module : 5**

Trial Procedure, Trial Process in India under the Cr.P.C, System of Courts in UK, Trial Process in UK, Jury system, Trial Process in US. Preliminary hearing, Grand Jury hearing, Arraignment.

## **Paper 9.3 CRIMINAL PSYCHOLOGY**

**Teaching Hrs. : L-04**

**Exam Hrs. – 3**

**Total : 100**

**Marks : Internal 30**

**External 70**

### **Module : 1 Psychology of Criminal Behaviour**

Definition, nature and scope of criminal psychology. Theories of Crime:

a. Psychological Theories      b. Social Theories      c. Personality stress behaviour      Crime trends in India, Prevention of crime

### **Module : 2 Psychological Disorders and Criminal Behaviour**

Psychopath–Juvenile delinquency, Mentally ill offenders, Serial killers & Rampage killers, Sex offenders.

### **Module : 3 Police Psychology**

Criminal competencies, Psychological autopsy–and manner of death, Psychological profiling and personality of criminals in the context of Law, Future predictions of criminal behavior on the basis of criminal profiling.

### **Module : 4 Violent Criminal behavior and Drug related crime**

Psychology of aggression and violence, Terrorism – Domestic and international, Drugs and Crime, Cyber crimes – defined governed, Cyber- terrorism, bullying, harassment, stalking.

**Module : 5 Selection & Training of law enforcement personnel** Selection of the police officers: Pre-employment selection, fitness for duty evaluation, psychometric tools, Training of the police officers: Interactions with the mentally ill, domestic disturbance, Hostage negotiations, Personality of Police officers, Job stress and discretion.

## **Paper 9.4 Information Technology Offences**

**Teaching Hrs. : L-04**  
**Total : 100**

**Exam Hrs. – 3**  
**Marks : Internal 30 External 70**

**Module : 1**

Introduction Historical development – Classification of cybercrime – Conventional crime vs. cybercrime  
Causes for cybercrime – Trends in cybercrime worldwide.

**Module : 2**

Typology of Cybercrime Hacking, cracking, DoS–Viruses, worms, malwares, bombs, email bombing, data diddling, salami attacks, phishing, stenography, cyber stalking, spoofing, pornography, defamation, computer vandalism, cyber terrorism, cyber warfare, crime in social media, social engineering, credit card frauds and financial frauds, telecom frauds.

**Module : 3**

Cybercrime Investigation Cyber/Digital forensics–Cyber forensics life cycle–Chain of custody– Search, seizure and preservation of digital evidence–Data privacy issues–Cryptography–Cybercrime cells–Cyber appellate authorities.

**Module : 4**

Cyber Laws Cyber laws in India – Information Technology (amended) Act, 2008 – Indian Evidence Act, 1872 – Digital evidence – Cyber laws across the globe – UNCITRAL

**Module : 5**

Cybercrime and Counter-measures Information security – Best information security practices in India and other countries – E-mail security – Web application security, malware security, network security, cloud security and wireless security.

**Select Bibliography:**

- Atkins, D., Buis, P., Hare, C., et al. (1997). Internet security professional reference (2nd ed.). Indianapolis, IN: New Riders Pub.
- Goodman, S., & Soafer, A.(ed.) (2002). The Transnational Dimensions of cybercrime. Washington: Hoover institution Press.
- Marcella, A.J., & Greenfield, R.S. (ed.) (2002). Cyber Forensics: A field manual for calculating, examining and preserving evidence of computer crimes. Boca Raton, Florida: Auerbach.
- Reyes, A. (2007). Cybercrime investigations bridging the gaps between security professionals, law enforcement and prosecutors. Rockland, MA: Syngress Pub.
- Walker, C. (1998). Crime, criminal justice and the Internet. London: Sweet & Maxwell.

**Paper 9.5 Internship**

**Teaching Hrs. : L-04**  
**Total : 100**

**Exam Hrs. – 3**  
**Marks : Internal 100**

This part will require the students to be attached with practicing lawyers with a minimum of ten years standing at the Bar. A minimum of two hours are to be spent daily with the lawyer observing client dealings, drafting, conducting fact investigations, etc., for at least twenty-four days in the semester. At the end of internship, a certificate confirming the student's attendance at the lawyers office will have to be produced.

**Select Bibliography:**

- NRM Menon (ed.) Clinical Legal Education (1998)
- Don Peters, The Joy of Lawyering: Readings for Civil Clinic (1996)
- B.Malik, The Art of a Lawyer (9th Ed. 1999)
- Steven Lubet, Modern Trial Advocacy: Analysis and Practice (1993)
- Thomas A.Mauet, Trial Techniques (1996)
- Thomas A.Mauet, Pre- trial (1995)
- Inns of School of Law, Advocacy (1999/2000)
- Inns of School of Law, Case Preparation (1999/2000)

# **B.A. LL.B. 5 YEAR INTEGRATED**

(HONOURS COURSE FOR SESSION 2025-26)

5<sup>th</sup> Year (Semester –X)

## **Paper 10.1 Offences against Child and Juvenile Offence**

**Teaching Hrs.: L-04**

**Total : 100**

**Module : 1**

**Exam Hrs. – 3**

**Marks : Internal 30 External 70**

**Introduction:** Criminal Justice System (CJS): Meaning, purpose and social relevance - Legislative process and CJS- Historical evolution–Overview of criminal justice sectors National and International perspective - Accusatorial and inquisitorial systems of Criminal Justice System - Co-ordination in CJS.

### **Module : 2**

**Police System:** Organization set up of Indian police in modern society - Objective of police system: Maintenance of law and order, investigation of crimes, protection of life, production of property rights, prevention of crime - Method of interrogation, role of counselling in interrogation - Functions of Police Organizations interface with the community, executive, prosecution and judiciary - Police image.

### **Module : 3**

**Judicial System:** Importance of judicial system in modern society - Judicial administration in India. Presiding Officer, Prosecutor and Defence Counsel - Salient feature of India Judicial System : Independence, public and fair trial - Fundamental elements in judicial functioning: Due process, speedy trials and access to justice - Alternative Dispute Redressal System (ADRS): Mediation, Lok Adalat, Village Nyaya Panchayat - Judicial Administration: Modernization and reforms.

### **Module : 4**

**Juvenile Justice System:** Challenges faced by children- Child Rights as per the UNCRC 1989 - National Legislative measures for protection of Child Rights: Commission for Protection of Child Rights Act, 2005, sexual harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013, the Right of Children for free and compulsory Education, Act 2009., JJ Act 2000 and Amended Act 2006, Immoral Traffic Prevention Act 1956 - Institutional Care and Support for juveniles/children - The role of police with special reference to children – Special Juvenile Police Unit (SJPU), Child Welfare Officer - Role of parents, teachers, doctors and welfare organizations in child upbringing and safety.

### **Module : 5**

Youth in Conflict with Law, Violence & Intervention Strategies Youth deviance-recent trends-pornography, MMS, Sexual Harassment - Youth violence-state response-state violence - Juvenile gangs, status offence - Youth alienation and crimes - Domestic Prevention Act, violence against elderly people, violence against disabled - Intervention strategies: Counselling, restoration/repatriation of Children, after-care, adoption, foster care & sponsorship, issues and problems in reintegration.

### **Select Bibliography:**

- Qadri, S.M.A. (2005). Criminology, Eastern Book Company.
- Gupta M.C., (2001). Child Victims of Crime, Gyan Publishing House.
- Les John (2002). Crime and Modernity, New Delhi: Sage Publications.
- Hagan, Frank (2008). Introduction to Criminology, Sage Publication Inc.
- Williams, Katherine (2004). Textbook on Criminology, Universal Law Publications.
- Reports by the International Conventions and UN Declaration.
- Shweta (2009). Crime, Justice and Society, MD Publications.
- Schmalleges Frank (1999). Criminal Justice Today, New Jersey: Prentice Hall.
- Justice Malimath Committee on Criminal Justice Reforms, Universal Law Publication (2003).
- Padmanabhaiah, K. (2001). Committee Police Reforms.
- Banerjee, D. (2005). Central Police Organizations Part I and Part II, Allied Publishers Pvt. Ltd.
- Reisd, Se Titus (2006). Crime and Criminology. Mc. Graw Hill Publishers.

## **Paper 10.2 Women and Criminal law**

**Teaching Hrs. : L-04**  
**Total : 100**

**Exam Hrs. – 3**  
**Marks : Internal 30**

**External 70**

**Module : 1**

Basic concepts: Sex and Gender; Femininity and masculinity; Patriarchy; Cultural Images of Women; Negative Stereotypes of Women.

**Module : 2**

Feminism: Meaning and emergence of feminism; Types of feminism; Post-feminism and anti-feminism.

**Module : 3**

Domestic Violence Act, 2005, The Pre-Conception and Pre-Natal Diagnostic Techniques Act, 1994

**Module : 4**

The Commission of Sati (Prevention) Act, 1987, The Dowry Prohibition Act, 1961, The Immoral Traffic (Prevention) Act, 1956

**Module : 5**

Sexual harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013  
The Prohibition of Child Marriage Act, 2006, Matrimonial offences under the Indian Penal Code, 1860

**Select Bibliography:**

- Bhasin, Kamla & Nighat Said Khan. 1986. Some Questions on Feminism and its relevance in South Asia. Raj Press. New Delhi.
- Bhasin, Kamla. 2000. Understanding Gender. Kali for Women. New Delhi.
- Bhasin, Kamla. 2004. Exploring Masculinity. Kali for Women. New Delhi.
- Bhasin, Kamla. 2004. What is Patriarchy? 5. Chacko, Shubha. 2001. Changing the Stream: Backgrounder on the Women's Movement in India. CED. Bangalore.
- Freedman, Jane. 2002. Feminism. Viva Books. New Delhi.
- John, E Mary. 2004. 'Gender and Development in India, 1970-90's: some reflections on the constitutive role of context' (ed.) Chaudhuri, Maitrayee. Feminism in India, New Delhi: Kali for women.
- Kabir, Naila. 1995. 'Empowerment from below: Learning from the grassroots'. Pg 223-265. (Ed) Kabir, Naila. Reversed Realities: Gender Hierarchies in Development Thought. New Delhi: Kali for women.
- Sexual Harassment at the workplace – A Guide. Sakshi, New Delhi.
- Saheli 1981-2006. 2006. New Delhi: Saheli Publication.

### **Paper 10.3 Criminal Sociology**

**Teaching Hrs. : L-04**  
**Total : 100**

**Exam Hrs. – 3**  
**Marks : Internal 30 External 70**

**Module : 1**

**Introduction:** Concept of Crime: Meaning; Causes of Crime.

**Module : 2**

Sociological Explanation of Criminal Behaviour: Theory of Differential association; Theory of delinquent sub-culture; Anomie Theory; Labelling Theory.

**Module : 3**

**White Collar Crime:** Meaning and nature of white collar crime; Genesis of white collar crime; Scope of white collar crime; Preventive measures.

**Module : 4**

Punishment and correctional methods: Punishment Theories: Retributive, Deterrent, Reformatory; Correctional methods: Prison based, community based; Probation, Parole, Open Prison.

**Module : 5**

Offences relating to marriage & Offences relating to Religion.

**Select Bibliography:**

- Ratanlal Dhirajlal, 1860. The Indian Penal Code: Lexis-Nexis
- Russell, William, 1964. Crime: Vol. I & II, London: Stevens and sons.
- Tapas K Banarjee, 1963. Background to Indian Criminal Law, Kolkata: Cambridge.

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- John Lewis Gillim 1945. Criminology and Penology, New York: Greenwood Press
- J.P. Sirohi : Criminology and Criminal Administration, Allahabad Law agency
- Criminal Procedure Code 1978
- Teeters Negley and Harvey Elnar Barnes, 1959. New Horizons in Criminology, New Delhi: Prentice Hall of India.
- Sutherland Edwin H. and Donald R. Cressey, 1968. Principles of Criminology

### **Paper 10.4 Penology and Victmology**

**Teaching Hrs. : L-04**  
**Total : 100**

**Exam Hrs. – 3**  
**Marks : Internal 30 External 70**

#### **Module : 1**

Origin and evolution of Punishment; Control of Crime: Police and Law courts, Prison system, Re-socialization of the offender, Rehabilitation of discharged prisoners in the administration of Criminal justice, prevention of crime delinquency.

#### **Module : 2**

Punishment, Relationship between Criminology and Penology; Theories of Punishment: Expiatory, Preventive and reformative and purposes of punishment.  
Penal Science in India: History of Punishment, Pre-classical School, Neoclassical, Positive School. Reformers, Clinical School and multiple causation approach.

#### **Module : 3**

**Miscellaneous:** modes of treatment of offenders, corporeal punishment, Transportation of criminals, Capital punishment, imprisonment, reactional treatment, parole, compensation, admonition, sex and adolescent offenders, indeterminate Sentences, Borstal School, Criminal procedural Jurisprudence.  
**Constitutional Guarantees:** Principles of natural Justice as applicable in procedural law, Protection to arrested persons. Under-trials, detinue and convicted persons. Double jeopardy, self-in-crimination and right to life and legal aid.

#### **Module : 4**

Meaning and Definitions of Victim; Classification of Victims ; Conceptual aspect of Victimology; Theories of Victimology; Victim's Rights under ;  
**International Conventions:** U.N. Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power 1985 ; Handbook of Justice for Victims 1999; The Rights to Reparation for victims of Human Rights Violation (1997); UN Convention on Justice and Support for Victims of Crime and Abuse of Power (14 November 2006); Rights of victims under International Criminal Courts

#### **Module : 5**

Compensation to victim under the Motor Vehicles Act, 1988, Compensation to Victim under Criminal Procedure Code, 1973, Compensation under Workmen's Compensation Act, 1923, Compensation under Probation of Offenders Act, 1958, Compensation under the Indian Fatal Accidents Act, 1855, Compensation payable under the Railway Act, 1989 (Sec.123)

#### **Leading Cases:**

- Gura Singh v. State of Rajasthan, 1984 Cr. LJ 1423 (1428)
- Francis Coralie Mullin v. Union Territory Delhi, AIR 1981 SC. 746.
- R.K. Garg v. Union of India (1981) 133 ITR 239.
- Mithu v. State of Punjab, AIR 1983 SC 473.

#### **Select Bibliography:**

- Barnes, H.B. - Teeters - New Horizons in Criminology.
- Vold, G.S. - Theoretical Criminology.
- Pillai, K.S. - Criminology.
- R. Taft, Donald - Criminology.
- Edwin, H. Sutherland and Donald R. Grussey- Principles of Criminology
- Horman Mannheim - Pioneers in Criminology.

- Hon, Barren, Mays - Crime and the Social Structure.
- Ahmed Siddiqui - Criminology - Problems & Perspectives
- Lord Pakenham - Causes of Crime.
- S.Venugopala Rao - Facts of Crime in India.
- Korm, R.R. and Mc Gorble, LW - Criminology and Penology.
- Grunhut - Penal Reforms.
- Mandholm - Criminal Justice and Reconstruction.
- Garden Rose - The Struggle for Penal reform.
- I.L.I. - Essays on Indian Penal Code.
- Ben - Penology - Old and New - Tagore Law Lectures.
- Elliot - conflicting Penal Theories in Statutory in Criminal Law.
- Shamshul Huda - Tagore Law Lectures on Criminal law.
- Lawburse - Crime, Its causes and Remedies.
- Dequires - Modern Theories of Criminology.
- Gillin - Criminology and Penology.
- Deccaria - Crime and Punishment.

### **Paper 10.5 Court Visit**

|                            |                         |
|----------------------------|-------------------------|
| <b>Teaching Hrs.: L-04</b> | <b>Exam Hrs. – 3</b>    |
| <b>Total : 100</b>         | <b>Marks : Internal</b> |

**100**

During the court visits, the students will be required to observe the following stages in cases:

Framing of charges / issues

1. Examination-in-Chief
2. Cross-examination
3. Final Arguments

In the lawyer's chamber they are required to do the following:

1. Read minimum of four case files to learn how files are prepared and maintained
  2. Learn how to maintain records and accounts
  3. Do legal research in at least two cases
  4. Draft minimum of two documents in an ongoing case in the chamber
  5. Observe client interviewing and counselling with the permission of the lawyer and clients in at least two cases
- In court visits the students are required to observe the following stages and write reports of their observation in the diary:

• Framing of charges • Examination-in-Chief • Cross-examination • Final arguments

The students are expected to maintain a diary of their field visits, work done during placement and their observations. In the diary, keep a log of the time spent each day including factual accounting of your experience of what you are doing, seeing and hearing. However, the diary should not be only descriptive of each day but should focus on what you learnt during the day. What were you thinking and feeling about your experiences? What is exciting or surprising? What is bothering you? What are your questions or insights about lawyering and judging? What criticism or praise do you have for the legal system? What else would you like to be taking place in your experience? Please be careful that while writing your accounts you do not reveal any confidential information. The diary should contain two parts:

(a) the factual and analytical information about your internship; and

(b) two legal documents drafted by you during internship. Each part will be evaluated separately

for 15 marks each. This part carries a total of 30 marks. The diary is an integral part of the course and you will be evaluated in terms of thoughtfulness and reflections about your learning experience. Be sure to write the journal in your own words even if you went with another class fellow or were in a group and observed the same things. If two students are found to have copied each other's language, both the students will be given a zero for that work. There is no written examination in this course at the end of semester. Students will be evaluated on the basis of their performance in the practical exercises conducted during the classes. The examination in this paper is divided in four parts.

Part A consists of Moot courts focused on appellate advocacy and carries 30 marks; Part B is dedicated to training the students in skills of trial advocacy and carries 30 marks; Part C aims at imparting practical experience to students through internship, court room and Chamber visits. This part carries 30 marks. Ten marks will be given for participating in 100% classes. Two marks will be deducted for each block of 5% attendance less than 100% to the maximum of minus ten marks. 96-100% attendance = 10 marks 91-95% attendance = 8 marks 86- 90% attendance = 6 marks 81-85% attendance = 4 marks 76-80% attendance = 2 marks Less than 76% = 0 marks

**Select Bibliography:**

- NRM Menon (ed.) Clinical Legal Education (1998)
- Don Peters, The Joy of Lawyering: Readings for Civil Clinic (1996)
- B.Malik, The Art of a Lawyer (9th Ed. 1999)
- Steven Lubet, Modern Trial Advocacy: Analysis and Practice (1993)
- Thomas A.Mauet, Trial Techniques (1996)
- Thomas A.Mauet, Pre- trial (1995)
- Inns of School of Law, Advocacy (1999/2000)
- Inns of School of Law, Case Preparation (1999/2000)

**M.G.S. UNIVERSITY,  
BIKANER**

# **SYLLABUS**

**SCHEME OF Examination  
and Syllabus**

**FACULTY OF LAW**

**LL.B.**

**LL.B. FIRST YEAR EXAMINATION – 2022  
LL.B. SECOND YEAR EXAMINATION -2023  
LL.B. THIRD YEAR EXAMINATION -2024**

**ORDINANCES RELATED TO LL.B. EXAMINATIONS**  
**(Three - Year Course)**  
**(New Scheme)**  
**BACHELOR OF LAWS**  
**EXAMINATIONS - FACULTY OF LAW**

**LL.B. First Year Exam. 2022**

First eight papers of LL.B. First Year Examination shall be of 100 marks and of 3 hours duration and the ninth paper(Practical Paper) shall contain two parts- Theory Paper shall be of 80 marks and 3 hours duration and Practical shall be of 20 marks.

**Compulsory Papers:**

- 1.1 Contract-I (General Principles of Contract, and Consumer Protection Act, 2019) (as amended up-to date).
- 1.2 Contract-II (Specific Contract, Sale of Goods Act, 1930, Indian Partnership Act, 1932 and Specific Relief Act, 1963)
- 1.3 Law of Torts and Motor Vehicle Act.
- 1.4 Family Law-I (Hindu Law)
- 1.5 Family Law-II (Mohammedan Law)
- 1.6 Constitutional Law of India - I
- 1.7 Constitutional Law of India - II
- 1.8 Environmental Law

**Optional Paper (Any One)**

- 1.9 (a) Legal and Constitutional History of India.
- 1.9 (b) Rajasthan Local Laws
- 1.9(c) Criminal Minor Acts

**Practical Paper:**

- 1.10 Professional Ethics, Lawyer's accountability and Bar-Bench relations.

**LL.B. Second Year Exam. 2023**

First nine papers of LL.B. Second Year Examination shall be of 100 marks and of 3 hours duration and the tenth paper(Practical Paper) shall contain two parts- Theory Paper shall be of 80 marks and 3 hours duration and Practical shall be of 20 marks.

**Compulsory Papers:**

- 2.1 Jurisprudence
- 2.2 Law of Crimes
- 2.3 Law relating to Transfer of property & Easement
- 2.4 Company Law
- 2.5 Public International Law
- 2.6 Labour Laws-I
- 2.7 Labour Laws-II
- 2.8 Administrative Law

**Optional Paper: (Any One)**

- 2.9 (a) Taxation Law
- 2.9 (b) Insurance Law
- 2.9 (c) Banking Law including Negotiable Instrument Act, 1881.

**Practical Paper:**

- 2.10 Public Interest Lawyering, Legal Aid and Para Legal Services.

**LL.B. Third Year Exam 2024**

First eight papers of LL.B. Third Year Examination shall be of 100 marks and of 3 hours duration and the ninth and tenth paper(Practical Paper) shall contain two parts- Theory Paper shall be of 80 marks and 3 hours duration and Practical shall be of 20 marks.

**Compulsory Papers:**

- 3.1 Law of Evidence
- 3.2 The Code of Criminal Procedure, 1973, Juvenile Justice Act, 2015 and Probation of Offenders Act, 1958.
- 3.3 The Code of Civil Procedure, 1908 and Limitation Act, 1963.
- 3.4 Legal Language, Legal Writing including General English and Interpretation of Statutes.
- 3.5 Trust, Equity and Fiduciary Relationship

**Optional Paper: (Any One)**

- 3.6 (A) Criminology and Penology
- 3.6 (B) Intellectual Property Law
- 3.6 (C) Law of Medicine
- 3.7 Land Laws
- 3.8 Human Rights and Practice

**Practical Papers:**

- 3.9 Arbitration, Conciliation and alternative Disputes Resolution System.
- 3.10 Drafting, Pleading, Conveyancing and Moot Court trial.

**COURSE CONTENTS**

**Theories Paper (Compulsory and Optional Both)**

The syllabus has been divided into five units. Questions will be set from each unit .

The questions paper shall contain three sections. Section A shall contain 10 questions two from each unit of 2 marks each. The Candidate is required to answer all the questions. The answers should not exceed 50 words. Section B shall contain 5 questions one from each unit with internal choice each question shall be of 8 marks. The answers should not exceed 200 words. The candidate is required to answer all the questions. Section C shall contain 5 questions of 20 marks each, one from each unit. The candidate is required to answer any 2 questions. The answers shall not exceed 500 words.

In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the question set in the previous examination.

In the case of discrepancies between English and Hindi Version, English Version will prevail.

Acts are to be read with their Amendments

**Practical Paper:**

The syllabus has been divided into four units. Questions will be set from each unit.

The questions paper shall contain three sections. Section A shall contain 8 questions two from each unit of 2.5 marks each. The Candidate is required to answer all the questions. The answers should not exceed 50 words. Section B shall contain 4 questions one from each unit with internal choice each question shall be of 10 marks. The answers should not exceed 200 words. The candidate is required to answer all the questions. Section C shall contain 4 questions of 20 marks each, one from each unit. The candidate is required to answer any 1 question. The answers shall not exceed 500 words.

In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the question set in the previous examination.

In the case of discrepancies between English and Hindi Version, English Version will prevail.

Acts are to be read with their Amendments

**LL.B. I year**

**Paper 1.1 Contracts-I (General Principles of Contract and Consumer Protection Act, 2019)**

**Max.Marks: 100**

**Min.Pass Marks: 36**

**UNIT-I**

**1. General Principles of Law of Contract**

History and nature of contractual obligations.

Agreement and contract: definitions, elements, characteristics and kinds.

Proposal and acceptance - various forms, essential elements, communication and revocation - proposal and invitation to proposal, floating offers, tenders.

Consideration - need, meaning, kinds, essential elements - nudum pactum - Privity of contract and of consideration - its exceptions, adequacy of consideration, present, past and future consideration, unlawful consideration and its effects, views of Law Commission of India on consideration, evaluation of the doctrine of consideration.

**UNIT-II**

**Capacity to Contract:** meaning - incapacity to contract - minor's Agreements- definition of 'minor', necessities supplied to a minor, agreements beneficial and detrimental to a minor, affirmation-restitution in cases of minor's agreements, fraud by a minor, agreements made on behalf of a minor, minor's agreements and estoppels, evaluation of the law relating to minor's agreements.

**Consent -Free consent - Its need, definition and factors vitiating free consent.**

Coercion-definition, essential elements, duress and coercion Various illustrations of coercion, doctrine of economic duress, effect of coercion, Undue Influence-definition, essential elements, parties between whom such influence is presumed, where liability to prove the existence of undue influence, who is to prove it?, Illustrations of undue influence, independent advice, Pardahanashin women, unconscionable bargains, effect of undue influence, misrepresentation - definition, misrepresentation of law and of fact, their effects and illustration, Fraud-definition, essential elements-suggestions falsi-suppresioveri, when does silence amounts to fraud?, Active-concealment, importance of intention.

Mistake - definition, kinds, fundamental error, mistake of law and of fact, their effects, when does a mistake vitiate free consent and when does it not vitiate free consent?

### UNIT-III

#### **Legality of objects:**

Void and voidable agreements - void, voidable, illegal and unlawful agreements and their effects, Lawful and unlawful considerations and objects, Forbidden by law, Defeating the provision of any law, Fraudulent, Injurious to person or property, Immoral, against public policy,

Void Agreements - Agreements without consideration, Agreements in restraint of marriage, Agreements in restraint of trade, its exceptions - sale of goodwill, section 11 restrictions, exceptions under the partnership Act, trade combinations, exclusive dealing agreements, restraints on employees under agreements of service, Agreements in restraint of legal proceedings - its exceptions, Uncertain agreements, Wagering agreement - its exception.

#### **Discharge of a contract and its various modes.**

By performance-conditions of valid tender of performance How? By whom? Where? When? In what manner? Performance of reciprocal promises, time as essence of contract, By breach-anticipatory breach and present breach, Impossibility of performance - specific grounds of frustration-application to leases, theories of frustration, effect of frustration, frustration and restitution, By period of limitation, By agreement - rescission and alteration, their effect, remission and waiver of performance, extension of time - accord and satisfaction.

### UNIT-IV

#### **Quasi-contracts or certain relations resembling those created by contract**

#### **Remedies in contractual relations;**

Damages-kinds, remoteness of damages, ascertainment of damages, Injunction - when granted and when refused, Why? , Refund and restitution, Specific performance - When? Why?

#### **Government as a Contracting Party**

**Constitutional provisions:** government power to contract -procedural requirements.

**Standard Form Contracts**

**Nature, advantages:** Unilateral character, principles of protection against the possibility of exploitation, judicial approach to such contracts, exemption clauses, clash between two standard form contracts, Law Commission of India's views.

**UNIT-V**

**Consumer Protection Act - 2019**

**Leading Cases**

- Carlil v. Carbolic Smoke Ball Company (1883) I.Q.B.256.
- Bhagwan Das v.Girdhari Lal & Company. AIR 1966. S.C.543.
- Lalman Sukha v.Gauri Dutt All. IJ (1913) 409.
- Mohri Bibi v.Dharmodas Ghose (1903) I.A.172.
- Indian Medical Association v.V.P. Shantha, AIR 1996 SC 500
- J.J. Merchant v.Shrinath Chaturvedi, AIR 2002 SC 2931

**Select Bibliography**

- Beatesen (ed.), Anson's Law of Contract (27th ed. 1998).
- P.S.Atiya, Introduction to the Law of Contract 1992 reprint(Claredon Law Series).
- Avtar Singh, Law of Contract (2000) Eastern, Lucknow.
- G.C.Cheshire, and H.S. Fifoot and M.P. Furmston, Law ofContract (1992) ELBS with Butterworths M.Krishnan Nair, Law of Contracts, (1998).
- G.H. Treitel, Law of Contract, Sweet & Maxwell (1997 Reprint).
- R.K. Abichandani, (ed.), Pollock and Mulla on the Indian Contract and the Specific Relief Act (1999), Tripathi.
- Anson, Law of Contract (1998), Universal.
- Avtar Singh - Law of Contract.
- Gurbax Singh - Law of Consumer Protection.
- P. Leela Krishna - Consumer Protection & Legal Contract.
- Avtar Singh, Law of Consumer Protection.

**PAPER 1.2**

**CONTRACT-II (SPECIFIC CONTRACTS, SALE OF GOODSACT, 1930, INDIAN PARTNERSHIP ACT, 1932 AND SPECIFIC RELIEF ACT, 1963)**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**UNIT- I**

**Indemnity**

The concept, Need for indemnity to facilitate commercial transactions, Methods of creating indemnity obligations, Definition of Indemnity, Nature and extent of liability of the indemnifier, Commencement of liability ofthe indemnifier, Situations of various types of indemnity creations, Nature of indemnity clauses.

## **Guarantee**

The concept, Definition of guarantee: as distinguished from Indemnity, Basic essentials for a valid guarantee contract, The place of consideration and the criteria for ascertaining the existence of consideration in guarantee contracts, Position of minor and validity of guarantee when minor is the principal debtor, creditor or surety, Continuing guarantee, Nature of surety's liability, Duration and termination of such liability, Illustrative situations of existence of continuing guarantee, Creation and identification of continuing guarantees, Letters of credit and bank guarantees as instances of guarantee transactions, Rights of surety, Position of surety in the eye of law, Various judicial interpretations to protect the surety, Co-surety and manner of sharing liabilities and rights, Extent of surety's liability, Discharge of surety's liability.

## **UNIT- II**

### **Bailment**

Identification of bailment contracts in day today life, Manner of creation of such contracts, Commercial utility of bailment contracts, Definition of bailment, Kinds of bailees, Duties of Bailor and Bailee towards each other, Rights of bailor and bailee, Finder of goods as a bailee, Liability towards the true owner, Obligation to keep the goods safe, Right to dispose off the goods.

### **Pledge**

Pledge: comparison with bailment, Commercial utility of pledge transaction, Definition of pledge transactions, Definition of pledge under the Indian contract Act, Rights of the pawner and pawnee, Pawnee's right of sale as compared to that of an ordinary bailee, Pledge by certain specified persons mentioned in the Indian Contract Act.

## **UNIT- III**

### **Agency**

Identification of different kinds of agency transactions in day to day life in the commercial world, Kinds of agents and agencies, Distinction between agent and servant, Essentials of a agency transaction, Various methods of creation of agency, Delegation, Duties and rights of agent, Scope and extent of agent's authority, Liability of the principal of acts of the agent including misconduct and tort of the agent, Liability of the agent towards the principal, Personal liability towards the parties, Methods of termination of agency contract, Liability of the principal and agent before and after such termination.

### **Specific relief under Specific Relief Act, 1963**

Specific performance of contract, Contract that can be specifically enforced, Persons against whom specific enforcement can be ordered.

Rescission and cancellation, Injunction, Temporary, Perpetual Declaratory orders

## UNIT- IV

### **Sale of Goods**

Concept of sale as a contract, Illustrative instances of sale of goods and the nature of such contracts, Essentials of contract of sale, Essential conditions in every contract of sale, Implied terms in contract of sale, The rule of caveat emptor and the exceptions thereto under the Sale of Goods Act, Changing concept of caveat emptor, Effect and meaning of implied warranties in a sale, Transfer of title and passing of risk, Delivery of goods: various rules regarding delivery of goods, Unpaid seller and his rights, Remedies for breach of contract, Concept of nemo dat quod non habet with exceptions.

## UNIT- V

### **Partnership**

Nature of partnership: definition, Distinct advantages and disadvantages vis-a-vis partnership and private limited company, Mutual relationship between partners, Authority of partners, Admission of partners, Outgoing of partners, Registration of Partnership, Dissolution of Partnership.  
Limited Liability Partnership Act, 2008

### **Leading Cases**

- National Bank of India Ltd. v. Sohan Lal, AIR 1962. Punjab 534.
- Amrit Lal Gordhan Lallan v. State Bank of Travancore, AIR 1960 S.C. 1432.
- Patnaik & Company v. State of Orissa, AIR 1965 S.C. 1655.
- State of Gujarat v. Maman Mohd., AIR 1967 S.C. 1885.

### **Select bibliography**

- R.K. Abhichandani (ed.), Pollock and Mulla on Contracts and Specific Relief Acts (1999) Tripathi, Bombay.
- Avtar Singh, Contract Act (2000), Eastern, Lucknow.
- Krishnan Nair, Law of Contract, (1999) Orient
- Avtar Singh, Principles of the Law of Sale of Goods and Hire Purchase (1998), Eastern, Lucknow.
- J.P. Verma (ed.), Singh and Gupta, The Law of Partnership in India (1999), Orient Law House, New Delhi.
- A.G. Guest (ed.), Benjamin's Sale of Goods (1992), Sweet & Maxwell.
- Beatson (ed.), Anson's Law of Contract, (1998), Oxford, London.
- Saharay, h.k., Indian Partnership and Sale of Goods Act (2000), Universal
- Ramnainga, The Sales of Goods Act (1998), Universal
- Dasai S.T. The Law of Partnership in India and Pakistan
- Kapoor N.D. - Mercantile Law (Hindi & English).
- Banerjee, S.C., Law of Specific Relief (1998), Universal.
- Anand and Aiyer, Law of Specific Relief (1999), Universal.

**PAPER 1.3**  
**LAW OF TORTS AND MOTOR VEHICLE ACT**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**UNIT-I**

**Evolution of Law of Torts**

England- forms of action - specific remedies from case to case, India - principles of justice equity and good conscience-uncodified character, advantages and disadvantages.

**Definition, Nature, Scope and Objects**

A wrongful act - violation of duty imposed by law, duty which is owed to people generally (in rem), *damnum sine injuria* and *injuria sine damnum*, Tort distinguished from crime, breach of contract and Quasi Contract, The concept of unliquidated damages, Changing scope of law of torts : expanding character of duties owed to people generally due to complexities of modern society, Objects - prescribing standards of human conduct, redressal of wrongs by payment of compensation, prescribing unlawful conduct by injunction.

**Principles of Liability in Torts**

Fault, Wrongful intent, negligence, Liability without fault, Violation of ethical codes, Statutory liability, Place of motive in torts.

**UNIT-II**

**Justification in Tort**

*Volenti non fit injuria*, Necessity, private and public, Plaintiff's default, Act of God, Inevitable accident, Private defence, Statutory authority, Judicial and quasi-judicial acts, Parental and quasi-parental authority.

**Extinguishment of liability in certain situations**

*Actio personalis moritur cum persona*-exceptions, Waiver and acquiescence, Release, Accord and satisfaction, Limitation

**Standing**

Who may sue-aggrieved individual - class action - social action group, Statutes granting standing to certain persons or groups, who may not be sued?

**Doctrine of sovereign immunity and its relevance in India**

**Vicarious Liability**

Basic, scope and justification, Express authorization, Ratification, Abetment, Special relationships: Master and servant - arising out of and in the course of employment - who is master?- The control test, who is servant? - Borrowed servant, independent contractor and servant, distinguished - Principal and agent, Corporation and principal officer.

### **Absolute/Strict liability**

The rule in Ryland's v. Fletcher, Liability for harm caused by inherently dangerous industries.

## **UNIT-III**

### **Torts against persons and personal relations**

Assault, battery, mayhem, False imprisonment, Defamation - libel, slander including law relating to privileges, Marital relations, domestic relations, parental relations, master and servant relations, Malicious prosecution, Shortened expectation of life, Nervous shock.

### **Wrongs affecting property**

Trespass to land, trespass ab initio, dispossession, movable property-trespass to goods, detinue, conversion, Torts against business interests- injurious falsehood, misstatements, passing off.

## **UNIT-IV**

### **Negligence**

Basic concepts, Theories of negligence, Standards of care, duty to take care, carelessness, inadvertence, Doctrine of contributory negligence, Res ipsa loquitur and its importance in contemporary law, Liability due to negligence : different professionals, Liability of common carriers for negligence.

### **Nuisance**

Definition, essentials and types, Acts which constitute nuisance obstructions of highway, pollution of air, water, noise, and interference with light and air.

## **UNIT-V**

### **Legal remedies**

Legal remedies, Award of damages - simple, special, punitive, Remoteness of damage - foresee ability and directness, Injunction, Specific restriction of property, Extra-legal remedies - self help, re-entry on land, re-capture of goods, distress damage feasant and abatement of nuisance.

**Motor Vehicle Act 1988** as amended up to date and rules under the Act.

### **Leading Cases**

- Ushaben v. Bhagya Laxmi Chitra Mandir. AIR 1970. GUJ. 18.
- Municipal Corpn. of Delhi v. Subhagwanti AIR 1966. S.C. page 1750.0
- Rylands v. Fletcher (1869) IR HT 330.
- Union Carbide Corporation v. Union of India, AIR 1992 SC 248
- M.C. Mehta v. Union of India, AIR 1987 SC 965

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- Salmond and Heuston - On the Law of Torts (2000) Universal, Delhi.
- D.D. Basu, The Law of Torts (1982), Kamal, Calcutta.

- B.M. Gandhi, Law of Tort (1987), Eastern, Lucknow
- P.S. Achuthan Pillai, The law of Tort (1994) Eastern, Lucknow.
- Ratanlal & Dhirajlal, The Law of Torts (1997), Universal, Delhi.
- Jai Narayan Pandey- Law of Torts (Hindi)
- R.K. Bangia- Law of Torts (Hindi)
- N.M. Shukla- Law of Torts (Hindi)
- A.K. Dixit Law of Torts & Consumer Protection (Hindi)

### **PAPER 1.4 Family Law-I (HINDU LAW)**

**Max. Marks: 100**

**Min. Pass Marks: 36**

#### **UNIT-I**

**Introduction** - Sources, Schools and application, Religious and Charitable Endowment - Essentials of an Endowment, Kinds, Shebait and Mahant

**Joint Family** - Mitakshara joint family, Mitakshara coparcenary-formation and incidents, Property under Mitakshara law - separate property and coparcenary property, Dayabhaga coparcenary - formation and incidents, Property under Dayabhaga law, Karta of the joint family - his position, powers, privileges and obligations, Alienation of property - separate and coparcenary, Debts - doctrines of pious obligations and antecedent debt, Partition and re-union, Joint Hindu family as a social security institution and impact of Hindu Gains of Learning Act and various tax laws on it, Matrilineal joint family.

#### **UNIT-II**

##### **Customary practices and State regulation**

Conditions of Hindu Marriage, its ceremonies and Registrations, Void and Voidable marriage, Polygamy, Concubinage, Child marriage, Sati, Dowry

##### **Conversion and its effect on family**

Marriage, Adoption, Guardianship, Succession

##### **Matrimonial Remedies**

Non-judicial resolution of marital conflicts - (a) Customary dissolution of marriage-unilateral divorce, divorce by mutual consent and other modes of dissolution, Judicial resolution of marital conflicts : the family court, Nullity of marriage, Option of puberty, Restitution of conjugal rights, Judicial separation, Desertion : a ground for matrimonial relief, Cruelty : a ground for matrimonial relief, Adultery : a ground for matrimonial relief, Other grounds for matrimonial relief, Divorce by mutual consent under: Hindu Marriage Act, 1955: Bar to matrimonial relief: Doctrine of strict proof, Taking advantage of one's own wrong or disability, Accessory, Connivance, Collusion, Condonation, Improper or unnecessary delay, Residuary clause - no other legal ground exists for refusing the matrimonial relief.

### UNIT-III

#### **Inheritance**

Historical perspective of traditional Hindu law as a background to the study of Hindu Succession Act, 1956, Succession to property of a Hindu male dying intestate under the provisions of Hindu Succession Act, 1956, Devolution of interest in Mitakshara coparcenary with reference to the provisions of Hindu Succession Act, 1956, Succession to property of Hindu Succession Act, 1956, Disqualification relating to succession, General rules of succession.

**The Hindu Succession Act, 1956:** Succession to the property of a Hindu male. Succession to interest in coparcenary property, property of a Hindu female, Succession to the property of a Hindu female, General rules and disqualifications of succession, Escheat

### UNIT-IV

#### **Alimony and maintenance**

Maintenance of neglected wives, divorced wives, minor children, disabled children, and parents who are unable to support themselves; provisions under the code of Criminal Procedure, 1973, Alimony and maintenance as an independent remedy: a review under personal law, need for reforming the law, Alimony and maintenance as an ancillary relief.

#### **Child and the Family**

Legitimacy, Adoption, Custody, maintenance and education, Guardianship and parental rights - welfare of the child principle

**The Hindu Adoption and Maintenance Act, 1956:** Requisites of valid adoption, Capacity to take in adoption, capacity to give 'in' adoption, persons who may be adopted, other conditions for a valid adoption. Effects of adoption, Miscellaneous provision of adoption.

**Maintenance** of wife, children and parents, Maintenance of widowed daughter-in-law, Dependents and their maintenance. Amount of maintenance, miscellaneous provisions of maintenance.

### UNIT-V

**The Hindu Minority and Guardianship Act, 1956:** Natural guardians and their powers. Testamentary guardians and their powers, de facto guardian general provisions of guardianship

**Partition:** Meaning, property for partition, persons entitled to claim partition and allotment of shares, partition how effected, Determination of Share, Reopening of partition. Re-union, Debts-Doctrine of pious obligation. Antecedent Debts

### **Family and its changing patterns**

New emerging trends, Attenuation of family ties, Working women and their impact on spousal relationship: composition of family, status and role of women, New property concepts, such as skill and job as new forms of property, Factors affecting the family: demographic, environmental, religious and legislative processes of social change in India: sanskritization, westernization, secularization, universalization, parochialization, modernization, industrialization and urbanization.

### **Settlement of spousal property**

Need for development of law

### **Establishment of Family Courts**

Constitution, power and functions, Administration of gender justice

### **Uniform Civil Code - need for**

Religious pluralism and its implications, Connotations of the directive contained in Article 44 of the Constitution, Impediments to the formulation of the Uniform Civil Code, The idea of Optional Uniform Civil Code.

### **Leading Cases**

- Shastri Yagna Purushdasji v. Muldas, AIR 1966 S.C. 1153.
- Hanooman Prasad v. Mussamat Babooee Mandraj Kunwaree (1856) 6 M.I.A. 305.
- Gita Hariharan v. Reserve Bank of India, AIR 1999 S.C. 1149.
- Bipin Chander v. Prabhavati, AIR 1957 S.C. 176.
- Dr. N.G. Dastane v. Sucheta Dastane, AIR 1975 S.C. 1534.

### **Select Bibliography**

- Paras Diwan, Law of Intestate and Testamentary Succession (1998), Universal.
- Basu, N.D., Law of Succession (2000), Universal.
- Kusem, Marriage and Divorce Law Manual (2000) Universal.
- Manchanda, S.C., Law and Practice of Divorce in India (2000) Universal.
- P.V. Kane, History of Dharmasastras Vol.2 pt.1 at 624-632 (1974).
- A. Kuppaswami (ed.) Mayne's Hindu Law and Usage Ch.4 (1986).
- B. Sivaramayys, Inequalities and the Law, (1985).
- K.C. Daiya, "Population control through family planning in India," Indian Journal of Legal Studies, 85 (1979).
- J.D.M. Derrett, Hindu Law : Past and Present.
- J.D.M. Derrett, Death of Marriage Law.
- J.D.M. Derrett, A Critique of Modern Hindu Law, (1970).
- Paras Diwan, Hindu Law (1985).
- S.T. Desai (ed.) Mulla's Principles of Hindu Law, (1998) - Butterworths-India.
- Paras Diwan, Family Law: Law of Marriage and Divorce in India, (1984).
- A.M. Bhattachargee, Hindu Law and the Constitution (1994) Eastern Law House, Calcutta.

- Paras Diwan, Law of Adoption, Ministry, Guardianship and Custody (2000), Universal.
- Paras Deewan- Hindu Law (Hindi)
- U.P.D. Kesri- Hindu Law (Hindi)

**PAPER 1.5. Family Law - II(Mohammedan Law)**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**UNIT-I**

**Evolution and application of Law**

Origin, Development, Sources, Schools, Application, Interpretation, conversion

**Marriage**

Nature of marriage, Essentials of marriage, Khyar-ul-bulug, Iddat, Khilwat-us-sahih

Matrimonial Stipulations, Kinds of marriages, Effects of marriages

**UNIT-II**

**Mahar (Dower)**

Meaning, Nature, Kinds of Dower, Objects of Dower, Subject matter of Dower

Wife's right on non-payment of dower.

**Dissolution of marriage** Historical background, Talaq, Various kinds of Talaq

Sec.2 of the Dissolution of Muslim Marriage Act, 1939, Legal Effect of Divorce.

**UNIT-III**

**Pre-emption (Haq Shufa)**

Historical background of law, Meaning, Nature of Pre-emption, Classification of Pre-emption, Essential formalities. Right of Pre-emption when there is conflict of laws. Subject matter of pre-emption, Legal effect of pre-emption, Devices for evading pre-emption.

**Gift (Hiba)**

Meaning, Requisites of valid gift., Gift of musha, Conditional and future gift.

Life estate and life interest, Hiba-bil-ewaj, Hiba-ba-shart-ul-ewaj.

**UNIT-IV**

**Will (Vasiyat)** Competency of testator and legatee., Valid subject of will.,

Testamentary limitation., Formalities of a will., Abatement of Legacy.

**Legitimacy and Acknowledgement**

Legitimacy and Legitimation, Presumption of Legitimacy under Muslim Law.

Presumption of Legitimacy under Sec.112 of the Indian, Evidence Act.

Conditions for valid acknowledgement.

**Maintenance** Meaning, Persons entitled to maintenance. Principles of maintenance.

Maintenance of Divorced Muslim woman under the Muslim woman (Protection of Right on

Divorce) Act 1986 -critical review. Death Bed Transactions , Meaning of Marz-ul-maut.,

Effect on Transactions during Marz-ul-maut.

## UNIT-V

**Waqf** Meaning of waqf., Essentials of waqf. Kinds of waqf, Beneficiaries of waqf. Formalities for creating waqf. , Waqf of musha. Administration of waqf. Mutawalli - Appointment, function, role, power, removal. Various muslim religious institutions. The waqf validating Act, 1913.

**Inheritance** General Principles of Law of inheritance., Classification of heirs under Hanafi and their shares and distribution of property.

### Leading cases

13.1 Maina Bibi v. Choudhary Vakil Anmad (1925) 52 La. 145.

13.2 Habibur Rahman v. Altaf Ali (1921) 48 L. A. 114.

13.3 Monshee Bazul-ul-Raheem v. Luteefutoon - Nissa (1861) 8 MIA. 379.

13.4 Abdul Fata v. Russmoy Chaudhary (1894) 2 ZIA 76.

13.5 Mohd. Ahmad Khan v. Shah Bano Begum AIR 1985 S.C. 945.

### Select Bibliography

1. Fyzee, Muhammedan Law.
2. Mulla, Principles of Mohammedan Law.
3. A.M. Bhattacharygee, Muslim Law and the constitution.
4. Prof. B.L. Verma, Islamic law.
5. Dr. D.S. Thalore, Muslim Law, UBH Jaipur
6. Akil Ahamed - Muslim Law

## PAPER 1.6

### CONSTITUTIONAL LAW OF INDIA- I

Max. Marks: 100

Min. Pass Marks: 36

#### Unit -I

**Introductory** Making of Indian Constitution., Short Title, commencement of the constitution, authoritative text in the Hindi language, Nature and special features of the Indian Constitution. Challenges to Indian Federalism, Preamble, The Union & its territory Citizenship and state

**Fundamental Rights: (Article 12 to 18)** Concept of Fundamental Rights. Constitutional provisions relating to Fundamental rights. Articles 12 Definition of State, Article 13, Laws Inconsistent with Fundamental Right, Article 14 to 18 Right to Equality

#### Unit -II

**Fundamental Rights: (Article 19 to 24)** Right to freedom Article 19-22, Right against exploitation Article 23, 24

**The Union Executive** The President Election, qualifications, salary and impeachment, Power: Legislative, Executive and dictionary power Constitutional

provision and Vice-President of India, Council of Ministers. Prime Minister- Cabinet system- Collective responsibility, Coalition Government

### **Unit -III**

**Fundamental Rights: (Article 25 to 35)** Right to freedom of Religion Article 25-28, Cultural and Educational Rights Art 29, 30, Right to Constitution; Doctrine of Eclipse, Doctrine of waiver, Doctrine of severability.

**The Union Legislature** Lok Sabha, Rajya Sabha, Legislative process privileges of the parliament & state legislature, legislative privileges and fundamental rights.

**Judiciary under the Indian Constitution: Judicial independence The Union and State Judiciary** - The Supreme Court and High Courts.

### **Unit -IV**

**Services under the constitution** - Doctrine of Pleasure (Article 310), Protection against arbitrary dismissal, removal or reduction in rank (Article 311) and exceptions to Article 311., Public Service Commission of the Union and the states.

### **Unit -V**

**Emergency** Meaning and scope, National, State and Financial emergency. Proclamation of Emergency-conditions, effect of emergency on centre-state relations. Emergency and suspension of fundamental rights

#### **Leading cases**

- Keshvanand Bharti v.State of Kerala, AIR 1973 S.C.1461
- Maneka Gandhi v.Union of India, AIR 1978 S.C. 597.
- Indra Sawhney v. Union of India, AIR 1993, S.C. 477.
- S.R.Bommai v.Union of India, AIR 1994, S.C. 1918.
- Vishaka v.State of Rajasthan, AIR 1997, S.C. 3014.

#### **Select Bibliography**

- D.D. Basu, Introduction of the constitution of India, Prentice Hall of India, Delhi.
- H.M.Seervai, Constitution of India, Vol.1-3, Tripathi, Bombay.
- V.N.Shukla, Constitutional law of India, Oxford.
- G.Austin, Indian Constitution : Cornerstone of a Nation.
- M.P. Jain, Indian Constitutional Law, Wadhwa and Company Nagpur.
- Kagzi, The Constitution of India, India Law House, N.Delhi.
- G.N.Pandey- Constitution of India (Hindi)

**PAPER 1.7**  
**CONSTITUTIONAL LAW OF INDIA- II**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**Unit –I**

**Directive Principles of State and Fundamental Duties –(Article 36 to 51A)**

Directive Principles - directions for social change -A new social order, Inter-relationship between fundamental rights and directive principles, Fundamental Duties – The need and status in constitutional set-up.

**Unit –II**

**The State Executive:**The Governor, The Council of Ministers, Relationship between the Governor and the Council of Ministers.

**The State Legislature:**Vidhan Sabha, Vidhan Parishad. The Panchayats, The Municipalities

**Unit –III**

**Union and State Relationship:**Legislative relationship, Administrative relationship, Financial relationship.

**Subordinate Judiciary Judges:** appointment, removal, transfer and condition of services, Judicial review – nature and scope.

**Unit –IV**

**State liability in contracts and Torts:** Suits by and against the state. Property Rights (Article 300-A). Freedom of Trade, Commerce and Intercourse

**Writs:** Habeas Corpus, Certiorari, Mandamus, Quo Warranto, Prohibition

**Unit -V**

**The Amendment of the Constitution:**Necessity of Amending provisions in the constitution; Procedure for Amendment. Amendments of fundamental rights.

Judicial review of amendment and the theory of Basic Structure.

Temporary provision with respect of the state of J&K.

**Leading cases**

Keshvanand Bharti v.State of Kerala, AIR 1973 S.C.1461

Maneka Gandhi v.Union of India, AIR 1978 S.C. 597.

Indra Sawhney v.Union of India, AIR 1993, S.C. 477.

S.R.Bommai v. Union of India, AIR 1994, S.C. 1918.

Vishaka v.State of Rajasthan, AIR 1997, S.C. 3014.

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- H.M.Seervai, Constitution of India, Vol.1-3, Tripathi, Bombay.
- V.N.Shukla, Constitutional law of India, Oxford.
- G.Austin, Indian Constitution : Cornerstone of a Nation.
- M.P. Jain, Indian Constitutional Law, Wadhwa and Company, Nagpur.

- Kagzi, The Constitution of India, India Law House, N.Delhi.
- J.N.Pandey- Constitution of India (English)

## **PAPER 1.8 ENVIRONMENTAL LAW**

**Max. Marks: 100**

**Min. Pass Marks: 36**

### **UNIT-I**

**Concept of Environment and Pollution** -Meaning and contents of environment, Meaning and contents of pollution, Kinds of pollution, Effects of pollution

**Legal Control: Historical Perspective** -Indian tradition: Dharma of environment, British Raj - Industrial development and exploitation of nature Nuisance - Penal code and procedural codes Environmental Concerns in Modern India

### **UNIT-II**

**Constitutional Protection to environment** -Constitution making - development and property oriented approach Fundamental Rights and Environment-Rights to clean and healthy environment, environment v.development.Directive principles of state policy and environment Fundamental Duties and environment.Other provisions of the constitution relevant to environment Emerging Principles - polluter pays precautionary principle, public trust doctrine and sustainable development. Public Interest Litigation Judicial Activism Pertaining to Environmental Pollution.

### **UNIT-III**

**The Water (Prevention and Control of Pollution) Act, 1974** Application of the Act, Definitions Constitution of central, state and joint boards Powers and functions of the Board , Qualification and disqualification of the members Prevention and control of water pollution and procedure thereof , Funds, account and audit Penalties

**The Air (Prevention and Control of pollution) Act, 1981** Application of the Act, Definitions Constitutions of central, State and joint boards Powers and functions of the Board , Qualifications and disqualifications of the members Prevention and control of Air pollution and procedure thereof , Funds, account and audit Penalties

### **UNIT-IV**

**Environment Protection Act, 1986** Application of the Act, Definitions, General Powers of the central government including the powers to give directions Prevention and control of environmental pollutions and procedure thereof Penalties

### **UNIT-V**

**Noise Pollution** Meaning of Noise pollution, Sources of Noise pollution, Effects of Noise pollution, Legal Control

#### **Forests and wild life protection**

**The Indian Forests Act, 1927** - Salient features of the Act, Applicability, Power to reserve forests, power to declare forests land, powers and functions of forest settlement officer, protected forests, penalties and contraventions.

**The Forest (conservation) Act, 1980:** Objectives, application and salient features of the Act, definitions, Restrictions on the de-reservation of forests, advisory committee, offences and penalties.

**Wild life (Protection) Act, 1972 -** Objectives, applicability and salient features of the Act, Authorities, Duties of wild life Advisory Board, Hunting of wild animals, sanctuaries, National Park, Closed areas, central Zoo authority, Trade or commerce in wild animals, Animal articles and trophies, Prevention and detection of offences, penalties.

**International Regime** UN declaration on right to development, Stockholm, Rio etc. conferences. Green House effect and Ozone depletion Bio-diversity.

#### **Leading Cases**

- M.C. Mehta v. Union of India, AIR 1987 SC 965
- M.C. Mehta v. Union of India, AIR 1988 SC 1115
- Vellore citizen's welfare forum v. Union of India, AIR 1996 SC 2715
- Tarun Bharat Sangh, Alwar v. Union of India, AIR 1992 SC 514
- A.P. Pollution control Board (II) V/s Prof. M.V. Nayudu, (2001) 2 SCC 62.

#### **Select Bibliography**

- Aarmin Rosencraz, Environmental Law and policy in India, Oxford.
- R.B. Singh & Suresh Mishra, Environmental Law in India, Concept Publishing Co., New Delhi.
- Kailash Thakur, Environmental Protection Law and policy in India, Deep & Deep publications, New Delhi.
- Leela Krishan, P, Law and Environment, Eastern, Lucknow
- S.C. Shastri, Environmental Law, Eastern, Lucknow
- S. Shantha Kumar, Introduction to Environmental Law, Wadhwa, Nagpur
- Dr. C.P. Singh, Environmental Law (Hindi)
- Satish Shastri, Noise Pollution (Hindi)
- Anuradh Prasad - Environmental Law (Hindi)
- Dr. S.K. Saini and Dr. Surendra Singh - Environmental Law (Hindi)

### **PAPER 1.9 (A) LEGAL AND CONSTITUTIONAL HISTORY**

**Max. Marks: 100**

**Min. Pass Marks: 36**

#### **Legal History of India**

##### **UNIT-I**

**Judicial Systems in Ancient India** Judicial system in ancient India : Hindu period, Ancient Hindu social order and religions philosophy, Administration of justice, Judicial system in medieval India: Muslim period, The Mughal period : judicial system.

**Administration of Justice in Bombay, Madras and Calcutta** Emergence of the East India Company: development of authority under charters, Trading body to a territorial power : subsequent charters, Administration of justice in Madras from 1639 to 1726, Administration of justice in Bombay 1668-1726, Administration of justice in Calcutta 1619-1726.

**The Mayors Court** Genesis of the Charter of 1726, Provisions of the charter, working in judicial system, Charter of 1753, Defects of judicial systems.

## UNIT- II

**Adalat System** Grant of Diwani, Execution of Diwani Functions, Judicial plan of 1772, Defects of the plan, New Plan of 1774, Reorganization of adalats in 1780, Reforms of 1781, The first civil code, Reforms in the administrations of criminal justice.

**The Regulating Act 1773** Charter of 1774 and the Supreme Court of Calcutta, Some land mark cases: Issue of Raja Nandkumar (1775) : whether a judicial murder?, The Patna cases (1777-79), The Cossijurah case (1779-80), Act of settlement 1781, Major defects, Supreme Courts at Calcutta, Madras and Bombay, Law and administration in the Supreme Court.

## UNIT- III

**Judicial Reforms** Judicial reforms of Cornwallis, Problems of judicial reforms 1793 1833, Impact of reforms by Cornwallis 1793, Reforms of Sir John Shore (1793) Reforms of Lord Wellesley (1798), Reforms of Lord Cornwallis (1805), Reforms of Lord Minto (1807), Lord Hastings' administration of justice (1813), Judicial reforms of Lord Bentick (1828), Defects of the systems.

**Growth of Criminal Law.**

**Growth of personal Law of Hindus and Muslims.**

**Charter Act 1833.**

**Growth of Justice, equity and good conscience.**

## UNIT- IV

### **Establishment of the High Courts**

The Indian High Courts Act 1861 The Government of India Act 1915: other High Courts, Jurisdiction of high courts, Posts constitutional developments.

**The Indian Councils Act 1909,**

**The Government of India Act 1919,**

## UNIT- V

**The Federal Court of India** Foundation of the Federal Court, Jurisdiction, Authority of law, Expansion of jurisdiction, Abolition of the Federal Court, An assessment.

**Privy Council** Jurisdiction, Appeals from India, A unique institution.

**The Supreme Court of India** Origin, Constitution, Jurisdiction and powers, Doctrine of precedents and the Supreme Court, Recent Changes.

**Influence of English Law in India**

**Prerogative writs in India**

**Racial discrimination**

**The Simon Commission and developments up to 1935,**

**The Government of India Act 1935,**

**The Cripps Mission,**

**The Cabinet Mission,**

**The Indian Independence Act 1947**

**Leading Cases -**

- (i) Raja Nand Kumar case.
- (ii) The Cossijurah Case
- (iii) The Patna Case
- (iv) Kamaluddeen Case

**Select Bibliography**

- Courtney Ilbert, Government of India (1962)
- Courtney Ilbert, The mechanics of Law Making (1914)
- M.P. Jain, Constitutional Law of India (1987) Tripathi, Bombay
- M.P. Jain, Outlines of Legal History (1998), Tripathi
- M. Rama Jois, Legal and constitutional History of India (1984)(Two volumes)
- A.B. Keith, Constitutional History of India 1600-1936 (1936)
- A.C. Banerjee - The making of Indian Constitution.
- Rankin, G.C. Background to Indian Law (1946)
- V.D. Mahajan - Constitutional History of India.
- V.D. Kulshreshtha, Landmarks in Indian Legal History (1992), Eastern Lukhnow.
- B.S. Sinha - Legal and Constitutional History
- Eric Stakes, The English Utilitarian's and India (1992), Oxford, Delhi.

### **PAPER 1.9 (B) Rajasthan Local Laws**

**Max. Marks: 100**

**Min. Pass Marks: 36**

#### **UNIT- I**

**Rajasthan Panchayati Raj. Act, 1994** Institution, Development, Basic and Wardsabha, Gram Sabha, Panchyatiraj.

#### **UNIT- II**

**Rajasthan Municipalities Act, 2009**

**Historical Background, Definitions, Constitution, Election (Sections - 1-37)**

#### **UNIT- III**

**Rajasthan Municipalities Act, 2009 Recognition, Removal etc.Etc. (Sections 38-344)**

**UNIT-IV**

**Rajasthan Right to Hearing Act, 2012** Introduction, Complaint, Appeal, Revision etc. Institutions, Power of Sate Govt. Misc.

**UNIT-V**

**Rajasthan Guaranteed Delivery of Public Service Act, 2011** Background, Development, Appeal, Revision, Providing Service Penalty Action in Good Faith.

**PAPER 1.9 (C) Criminal Minor Acts**

**UNIT-I**

Narcotics Drugs Psychotropic Substance Act, 1985- Historical Background, Contribution Purpose, Preliminary, Authorities and officers, National Fund for Control of Drug Abuse, Prohibition, Control and Regulation, Offences and Penalties, Procedure, Forfeiture of Property etc. Punishment.

**UNIT-II**

SC/ST (Prevention of Atrocities Act, 1989) Preliminary, Historical Background, Role, Purpose, Offenders, Victims, Offences, Punishments etc. Special Courts, Investigation, Rehabilitation.

**UNIT-III**

Protection of Child from Sexual Offences Act, 2012 – Historical Background, Purpose, Preliminary, Sexual Offences against children, using child for pornographic Purposes and Punishment, Abetment of an Attempt to commit offence, Procedure for Reporting, Procedures for Recording Statement of the Child, Special courts, Procedure and powers, Miscellaneous.

**UNIT-IV**

I.T. Act., 2000 (A): Special Emphasis on Cyber Crimes. Historical Background, Preliminary Digital Signature, Attribution, Acknowledgement, Dispatch of Electronic Records, Secure Electronic, records and digital signatures, Regulations of Certifying Authorities.

**UNIT-V**

I.T. Act., 2000 (B): Digital Signature certificates, Duties of Subscribers, penalties and Adjudication, Cyber Regulations Appellate Tribunal, Offences, Network service providers not to be liable in certain case, Miscellaneous cyber crimes

**PAPER 1.10 PROFESSIONAL ETHICS,  
LAWYER'S ACCOUNTABILITY  
AND BAR - BENCH RELATIONS.**

This paper will consist of following two parts –

**Written Paper: 80 marks**

**Min. Pass Marks: 29**

**Practical Exam.: 20 marks**

**Min. Pass Marks: 07**

The Practical examination shall be conducted by a committee of 2 examiners. In this committee there shall be one internal and one external examiner. The students have to clear the written paper as well as Viva Voce separately, i.e. 29 in marks in the written and 7 marks in the viva voce necessary.

#### **UNIT-I**

**Basic Postulates of Administration of Justice:** Image of justice, Wheels of the chariot of justice, Bench-Judges in the image of justice, Bar-Act, Plead and Dress of Advocate.

**Historical Evolution of Legal Profession:** Legal Profession in Ancient India, Position of Legal Profession in Muslim Regime, Legal Profession during the British Regime.

**Autonomy of Legal Profession** Indian Bar Committee, 1923 , Indian Bar Council Act, 1926 , All India Bar Committee, 1951, Unified Bar - The necessity of time., 14th Report of the Law Commission., Advocates Act, 1961., Provisions which strengthen Unified Bar., Organization of Bar on All India Basis, Constitution of Bar Council and Elections., Admission and Disciplinary action., Regulation of Legal Education.

**Image/Position of Legal Profession in Society** Advocacy is a profession not a business, Legal profession is a noble profession, Deterioration in Image of Legal Profession in Independent India, Role of Lawyers in Society.

#### **UNIT-II**

**The necessity of the Professional Ethics:** The Art of Advocacy, Professional Ethics, Nature of Professional Ethics and the problems of the code of Ethics, Advantages of having codified professional ethics, Professional Ethics - Rules of Conducts.

**Bar-Bench Relationship** General Conception., Advocates duty to the Court, Duty of Judge towards the Advocate, Duty of the Bar towards the Bench, Grounds of disputes in Bar-Bench Relations, Suggestions to improve Bar-Bench Relations.

#### **UNIT-III**

**Relationship between an Advocate and his client:** Code of conduct, Lawyers-client Relationship, Do's and Don'ts for advocate towards client.

**Accountability of lawyers**

**Professional Ethics and Advocates Duties to colleagues and others:** Advocates duty to colleagues, advocates duty to opponents, advocates duty towards witnesses and advocates duty to public, illustrations of other misconduct, disciplinary committee's approach in case of professional or other misconduct.

#### **UNIT-IV**

**Contempt of Court**

Purpose and meaning of contempt of court., Contempt of Court by Judge, lawyers and state., Contempt by Judge, Magistrate or other persons acting judicially. Contempt of Court by Advocates. Contempt of Court by State, Corporate bodies and their officers. Punishment - Nature and Extent. Power of Superior Courts in Contempt cases. Safeguards available in contempt cases.

**Authorities and Procedures to deal with professional, misconduct and remedies against their order.**

State Bar Council and its disciplinary committee.

The Bar Council of India and its disciplinary committee.

Remedies against the order of punishment.

Quantum of punishment.

**Leading Cases**

1. In Re Vinay Chandra Mishra.
2. Hikmat Ali Khan v. Ishwar Prasad Arya & others 1997, 3 SCC 1608
3. P.D. Gupta v. Ram Murti and another. 7 S.C.C. 147 AIR 1998 S.C. 283.
4. D.S. Dalal v. State Bank of India and others. AIR 1993 S.C. 1608.
5. Delhi Judicial Services Association, Tis Hazari Court v. State of Gujarat, AIR 1991 S.C. 2176.

**Select Bibliography**

1. The Bar Council Code of Ethics.
2. The Contempt of Court Act.
3. Dr. Anirudh Prasad, Principles of the Ethics of Legal Profession in India.
4. Mamta Rao, Professional Ethics.
5. Raju Ramachandran, Professional Ethics : Changing profession, changing ethics, Butterworths, New Delhi.
6. Dr. Murlidhar Chaturvedi- Professional Ethics, Accountability of Lawyers and bench (Hindi)

**Practical Exam:**

The candidate shall be required to submit in writing the facts, arguments and the principles of law laid down in any two important decisions of the Supreme Court and disciplinary committee of Bar Council of India. The division of marks will be as under :

- |                                     |          |
|-------------------------------------|----------|
| (1) Record submitted by the student | 10 marks |
| (2) Viva-voce                       | 10 marks |

The Viva-voce examination shall be conducted by a committee of 2 persons. In this committee there shall be one internal and one external examiner.

## **LL.B. SECOND YEAR EXAMINATION**

### **COURSE CONTENTS**

#### **Note : Theories Paper (Compulsory and Optional Both)**

The syllabus has been divided into five units. Questions will be set from each unit .

The questions paper shall contain three section. Section A shall contain 10 questions two from each unit of 2 marks each. The Candidate is required to answer all the questions. The answers should not exceed 50 words. Section B shall contain 5 questions one from each unit with internal choice each question shall be of 8 marks. The answers should not exceed 200 words. The candidate is required to answer all the questions. Section C shall contain 5 questions of 20 marks each, one from each unit. The candidate is required to answer any 2questions. The answers shall not exceed 500 words.

In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the question set in the previous examination.

In the case of discrepancies between English and Hindi Version, English Version will prevail.

Acts are to be read with their Amendments

#### **Practical Paper:**

The syllabus has been divided into four units. Questions will be set from each unit.

The questions paper shall contain three sections. Section A shall contain 8 questions two from each unit of 2.5 marks each. The Candidate is required to answer all the questions. The answers should not exceed 50 words. Section B shall contain 4 questions one from each unit with internal choice each question shall be of 10 marks. The answers should not exceed 200 words. The candidate is required to answer all the questions. Section C shall contain 4 questions of 20 marks each, one from each unit. The candidate is required to answer any 1 question. The answers shall not exceed 500 words.

In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the question set in the previous examination.

In the case of discrepancies between English and Hindi Version, English Version will prevail.

Acts are to be read with their Amendments.

### **PAPER - 2.1 JURISPRUDENCE**

**Max. Marks: 100**

**Min. Pass Marks: 36**

#### **UNIT- I**

**Introduction:** Meaning, definition, nature, scope and importance of Jurisprudence.

**Norms and the normative system:** Different types of normative systems, such as of games, language, religious orders, unions, clubs and customary practice. Legal

systems as a normative order: similarities and difference of the legal system with other normative systems. Law: Nature and definition given by different jurists.

#### **UNIT- II**

**Schools of Jurisprudence:** Analytical positivism, Natural Law School, Historical School, Sociological School Economic Interpretation of Law, Realist School.

**The Indian Jurisprudence:** Origin and its nature, the concept of 'Dharma'

#### **UNIT- III**

**Purpose of Law:** Justice, meaning and kinds, Justice and law: Approaches of different schools; Power of the Supreme Court of India to render complete Justice in a case with special reference to Article 142. Critical studies, Feminist Jurisprudence.

**Sources of Law:** Customs, legislations, judicial precedent and Juristic writings as a source of law. Concept of Stare decisis, obiter dicta and Ratio decedendi.

#### **UNIT- IV**

**Persons:** Nature of personality, status of the unborn, minor, lunatic, drunken, dead person, idol and mosque; corporate personality- Corporate sole and corporate aggregate; dimensions of the modern legal personality of non-human beings.

**Possession:** Concept and kinds of possession.

**Ownership:** The concept, kinds. Relation between possession and ownership.

#### **UNIT- V**

**Concept of legal rights,** its kinds and right-duty correlation.

##### **Title**

**Property:** Concept and kinds of property.

**Liability:** Conditions required for imposing liability, wrongful act-damnum sine injuria and injuria sine damnum, Causation, mensrea, intention, motive, Malice, negligence and recklessness, Strict and vicarious liability.

**Obligation:** nature, kinds and sources of obligation.

**Procedure:** difference between substantive and procedural laws. Evidence-nature and kinds, Theory of Punishment, Administration of Justice, Capital Punishment

#### **Leading Cases**

1. Keshavanand Bharti v. State of Kerala, AIR 1973 SC 1461 (Per Mathew J.) - Paras 1617-1620 (Sovereignty) 1685-1698 (Natural Law and Natural rights) 1726-1729 (Roscoe pound and Sociological Jurisprudence) 1738-1751 (Property rights and Social Justice).
2. A.K. Gopalan v. State of Madras, AIR 1950 SC 27 (S.970 paras 18, 19 Per Kania C.J.) Paras 107-109 (Per Patanjali Shastri) Para 192 (Per Mukherji J.) Paras 228 (Per Das J. Natural Law and Positive Law)
3. Maharaja Shree Ummed Mills Ltd v. Union of India, AIR 1963 SC 953 Paras 12, 13, 14 (Per SK. Das J.) Concept of Law; Legislative agreements)

4. Jaipur Udyog Ltd v. Income Tax Commissioner, AIR 1965 Raj 162 Paras 12, 13, 14 (Per Tyagi J.) (Sovereignty, Separation of powers and functions).
5. Shrimati Indira Nehru Gandhi v. Raj Narayan, AIR 1975 SC 2299 Paras 219 and 299 (Per Mathew J.) (generally as a property of law.)
6. In Re Article 143 (Keshav Singh) AIR 1965 SC 745 paras 9-17 (Per sarkar J. Law making by judicial and legislative comity).
7. Bengal Immunity Co. v. State of Bihar, AIR 1955 SC 661 (Precedent)
8. Trilokchand Motichand v.H.B Munshi AIR 1970 SC 898 (Para 4 to 11, per Hidayatulla CJ.) Para 36 per Bhachawat J.; Para 59-63 per hegde J.). These excerpt illustrate problems and uses of Hohfeld analysis.
9. Menka Gandhi v. Union of India, AIR 1978 SC 597

### **Bibliography**

1. Salmond: Jurisprudence
2. Dias: Jurisprudence
3. Wayne Morrison: Jurisprudence
4. Julius stone: The province and function of Law
5. Holland: Jurisprudence
6. S.N. Dhyani: Jurisprudence- A study of Indian Legal Theory
7. N.V. Paranjape: Vidhi Shastra
8. V.D. Mahajan, Jurisprudence and Legal theory
9. Bodenheimer Jurisprudence- The Philosophy and method of law.
10. Mulla- Hindu Law
11. Mani Tripathi- Jurisprudence (Hindi)

## **PAPER - 2.2 LAW OF CRIMES**

**Max. Marks: 100**

**Min. Pass Marks: 36**

### **UNIT- I**

**General Introduction-** Concept of crime: Its definition, nature and scope. Distinction between crime and other wrongs. Applicability of IPC: Intra and Extra territorial operation. Salient features of the IPC, general explanations.

**Elements of criminal liability:** Mental elements in crime- mensrea (evil intention), its importance and exceptions. (Trends to fix liability without mensrea). State's power to determine acts or omissions as crime.

**Types of Punishment-** Death punishment, its impacts and social relevance. Alternative to capital punishment; imprisonment for life with hard labour, simple imprisonment; Forfeiture of property and fine. Discretion of Court in awarding punishment. Minimum punishment in respect of certain offences.

**Stages of a crime-** mere intention not punishable, preparation, attempt- tests for determining what constitutes attempt- proximity, equivocality and social danger, impossible attempts.

## UNIT-II

**General Exceptions:** Factors negative guilty intention: Mistake of fact not of law; judicial act, accident, necessity, minority and insanity; (Impairment of cognitive faculties, emotional imbalance) medical and legal insanity; Intoxication. Private defence- justification and limits when private defence extends to causing of death to protect body and property.

## UNIT-III

**Group Liability:** Common intention, unlawful assembly and common object. Abetment: instigation, aiding and conspiracy. Mere act of abetment punishable. Provisions relating to criminal conspiracy. Riot and affray.

**Offences against the state:** waging war against the state and sedition.

**Offences against public servant and public justice:** Contempt of lawful authority of public servants; giving and fabricating false evidence and aggravated form of the crime.

## UNIT-IV

**Specific offences against Human Body:**

- (i) Culpable homicide, murder, distinction between culpable homicide and murder. Situation justifying treating murder as culpable homicide not amounting to murder- grave and sudden provocation, exceeding right of private defence, public servant exceeding legitimate use of force, death in sudden fight, death caused by consent of the deceased- euthanasia and surgical operation. Death caused of person other than the person intended. Rash and negligent act causing death.
- (ii) Hurt- simple and grievous
- (iii) Wrongful restraint and wrongful confinement
- (iv) Criminal force and assault
- (v) Kidnapping and abduction.

**Offences against women:-**

- (i) Insulting the modesty of a woman, assault or criminal force with intent to outrage the modesty of a woman.
- (ii) Miscarriage: Causing miscarriage without women's consent and causing death by miscarriage without women's consent.
- (iii) Kidnapping or abducting woman to compel her to marry or force her to illicit intercourse.
- (iv) Buying or selling a minor for purposes of prostitution.
- (v) Rape- custodial rape, gang rape, marital rape, unlawful sexual intercourse.

- (vi) Prevention of immoral traffic and prevention of sati
- (vii) Cruelty by husband or his relative
- (viii) Dowry death
- (ix) Prohibition of indecent representation of women

**Protection of Women from Domestic Violence Act, 2005-** Definitions, Power and duties of protection of officers and service providers, Application to Magistrate, Protection orders, Residence orders, Custody orders, Compensation orders and Monetary reliefs, Penalty for breach of protection orders by respondent.

#### **UNIT-V**

**Offences against property-** theft, extortion, robbery, dacoity, criminal misappropriation of property, criminal breach of trust, cheating, mischief and criminal trespass

**Offences relating to documents:** Forgery or making a forged document

**Offences relating to marriage:** Bigamy, marriage or fraudulently gone through without lawful marriage, adultery, enticing or deceiving a married woman.

**Defamation:** definition and exceptions

**Leading cases:**

- 1 Reg v. Govinda IR 1876 1 BOM 342.
- 2 Kedarnath v. State of Bihar AIR 1962 SC 955
- 3 T.D. Vadgama v.State of Gujrat AIR 1973 SC 2313
- 4 Veliji Ragahvji v.State of Maharashtra AIR 1965 SC 1433
- 5 K.N. Nanavati v.State of Maharashtra AIR 1962 SC 605

**Select Bibliography**

- 1 Dr. Hari Singh Gour- Penal law of India
- 2 Rattan Lal and Dhirajlal: The Indian Penal Code
- 3 P.S. Achuthan Pillai: Criminal law
- 4 B.M. Gandhi: Indian Penal Code
- 5 Prof. K.S.N. Murty & KVS Sarve: Criminal Law
- 6 T. Bhattacharya: Bhartiya Dand Sanhita
7. Rajat Bajal: Law of Protectionof Women from Domestic Violence

### **PAPER - 2.3 PROPERTY LAW INCLUDING TRANSFER OF PROPERTY ACT AND EASEMENT ACT**

**Max. Marks: 100**

**Min. Pass Marks: 36**

#### **UNIT-I**

**Jurisprudential control of property:** Concept, meaning and kinds of property: Movable and immovable, tangible and intangible property. Intellectual property: copyright, patents, designs and trademarks.

**Preliminary:** Definition, Essentials of Transfer, Competence of parties, subject matter of transfer, transfer to unborn child, registration of transfer, etc.

**General Rules of Transfer:** (a) Restraints of alienation absolute or partial, Restraints of free enjoyment, Covenants affecting enjoyment, divesting on insolvency, perpetuities, Future estates, Doctrine of acceleration.

Accumulation of income, exceptions, Covenants and Transfer. General Rules of Transfer  
(b) Conditional transfer: Condition precedent, condition subsequent; vested and contingent interest.

### **UNIT-II**

Election, Priority of rights, Notice, Implied transfers by limited owners, transfer of property out of which maintenance claims have to be met, ownership by holding out, ownership by estoppels, feeding the grant by estoppels. Doctrine of Part performance (Ss. 35-53 A) Sale of immovable property (Ss. 54 to 57).

### **UNIT - III**

Mortgage and Charge: Kinds of mortgage, Rights and liabilities of Mortgagor and mortgagee, Priority, marshalling, contribution and subrogation.

### **UNIT – IV**

Exchange, Lease, Gift, Actionable Claims.

### **UNIT – V**

**Easements:** Indian Easements Act, 1882, Nature, Characteristics, Creation. Essentials of Easements, Imposition, Acquisition, Incidents, Disturbance, Extinction, Suspension and Revival of Easement, Riparian Rights, License, Difference between lease and license.

#### **Leading cases:**

- 1 Smt. Shanta Bai v.State of Bombay & Others, AIR 1958 SC 532
- 2 Rajender v.Santa Singh, AIR 1973 SC 2537
- 3 Kreglinger v.New Patagonia Meat and Cold Storage Comp. Ltd (1914) AC 25
- 4 Union of India v.Sharda Mills Ltd, AIR 1973 SC 281
- 5 Nathu Lal v.Phool Chand, AIR 1970 SC 546
- 6 Jumma Masjid v.Deviah AIR 1962 SC 847

#### **Select Bibliography**

- 1 Mulla: Transfer of Property Act
- 2 S. Shah: Lectures on Transfer of Property
- 3 Vepa P Sarathi: Law of Transfer of Property
- 4 I.C. Saxena: Transfer of Property
- 5 B.B. Mitra: Transfer of Property
- 6 S.R. Bhansali and Sharma: Sampathi Antaran Adhiniyam
- 7 J.N. Kulshrestha: Sampathi Antaran Adhiniyam
- 8 S.N. Shukla: Sampathi Antaran Adhiniyam

- 9 G.P. Tripathi: Sampathi Antaran Adhiniyam  
10 Dr. R.R. Gupta: Sampathi Antaran Adhiniyam and Sukhadhikar

## PAPER - 2.4 COMPANY LAW

**Max. Marks: 100**

**Min. Pass Marks: 36**

### UNIT- I

**General Introduction:** Theories of corporate personality, creation and extinction of corporations. Corporations, partnerships and other associations of persons, state corporations, government companies, small scale; cooperative, corporate and joint sectors. Holding and subsidiary companies. Public and private company.

**Law relating to Public and Private Companies:** Companies Act 2013

Need of company for development, Kinds of Company, formation, registration and incorporation of a company.

### UNIT- II

**Memorandum of association:** various clauses, alteration there in- doctrine of ultra vires

**Articles of association:** binding force- alteration- its relation with memorandum of association-doctrine of constructive notice and indoor management and exceptions. Promoters-position-duties and liabilities.

### UNIT-III

**Prospectus:** issue, contents, liability for misstatements, statement in lieu of prospectus

**Shares:** general principles of allotment, statutory restrictions, share certificate- its objects and effects, transfer of shares, procedure for transfer, issue of shares at premium and discount, depository receipts-dematerialized shares (DEMAT). Calls on shares, forfeiture and surrender of shares; lien on shares

**Share capital:** kinds, alteration and reduction of share capital, further issue of capital, conversion of loans and debentures into capital.

**Borrowing powers:** charges, mortgages, contract by companies, debenture- meaning, kinds and remedies available to debenture holders.

### UNIT-IV

**Directors:** position, appointment, qualification, vacation of office, removal, resignation, powers and duties of directors. Managing directors and other managerial personnel.

**Meetings:** kinds, procedure and voting.

**Audit and accounts**

**Dividends:** payment, capitalization and profit.

**Protection of minority rights**

**Protection of oppression and mismanagement:** who can apply? Powers of the court, company and the central government, Investigation of company affairs.

**Reconstruction and amalgamation of company**

## UNIT-V

**Winding up of Company:**Winding up-types: By court-grounds-who can apply? Procedure-powers of liquidator-powers of court, consequences of winding up. Voluntary winding up by members and creditors, winding up subject to supervision of courts, payment of liabilities, winding up of unregistered company.

### Law and multinational companies-

- (i) International norms for control
- (ii) Foreign exchange management Act, 1999- Joint ventures investment in India, repatriation of project.
- (iii) Collaboration agreements for technology transfer.

### Corporate liability:

- (i) Legal liability of companies- civil and criminal
- (ii) Remedies against them civil, criminal and tortious- specific relief Act, writs.

### Leading Cases

- 1 Aron Soloman v. Soloman and Co. (1897) AC 22
- 2 Royal British Bank v. Turkund (1856) 119 ER 886
- 3 Bell House Ltd v. City Wall Properties Ltd (1966) SC 2 QB 656
- 4 Bajaj Auto Ltd v. N.K. Farodia & Others, AIR 1971 SC 321
- 5 Tata Engg and Locomotive Co Ltd v. State of Bihar AIR 1965 SC 40
- 6 Seth Mohan Lal v. Grain Chambers Ltd AIR 1968 SC 772
- 7 Vasudev Ram Chandra Shelat v.s Pranalal Jaya Nand Thakur AIR 1974 SC 1728
- 8 Shanti Prasad Jain v. Kalinga Tubes Ltd AIR 1965 SC 1535

### Select Bibliography

- 1 Atiya: The companies act, 1956
- 2 Avtar Singh: Company law (English and Hindi)
- 3 L.C.B. Gower: Principles of Modern Company Law
- 4 A. Ramaiya: Guide to the Companies Act
- 5 R.R. Pennigton: Company Law
- 6 S.M. Shah: Lectures on Company Law
- 7 N.V. Paranjape- Company Law (amended upto date)

## PAPER - 2.5 PUBLIC INTERNATIONAL LAW

**Max. Marks: 100**

**Min. Pass Marks: 36**

### UNIT-I

Definition, Historical developments, Nature and Basis of International Law, is International Law a true Law?Weaknesses of International Law Codification and development of InternationalLaw, Relation between International Law and State Law,

Sources of International Law, Subjects of International Law, Place of individual in International Law, Nationality, Extradition and Asylum

#### **UNIT-II**

States in general, Kinds of States and Non-State entities, Acquisition and loss of State Territory, Territorial water, Continental Shelf, Contiguous zone and exclusive economic zone, Freedom of the High Sea and Piracy Recognition of States and Governments, Recognition of Insurgency and belligerency, de facto and de jure recognition, State succession, state Jurisdiction, state Responsibility, Intervention

#### **UNIT-III**

**Diplomatic agents:** Counsels, Classification and Functions of diplomatic agents, Privileges and Immunities of diplomatic agents with reference to Vienna Convention on Diplomatic Relation, 1961. **Treaties:** Definition, Basis, classification and formation of treaties. Interpretation and revision of treaties, principles of jus cogens and pacta sunt servanda, termination of treaties. Vienna Convention on the Law of Treaties. Pacific and compulsive means of settlement of international disputes

**International Institution:** League of Nations, United Nations. History and formation of United Nations, Organs of United Nations with specific reference to General Assembly, Security Council and International Court of Justice, New International Economic Order and Disarmament. Secretariat, International Criminal Court.

#### **UNIT-IV**

**War:** Its legal character and effects, Enemy character, Armed conflicts and other hostile relations, belligerent Occupation, War Crimes, termination of war and doctrine of postliminium, Prize courts, Genocide

The law of Neutrality-Basis of neutrality, Rights and duties of neutral state and belligerent States. Quasi neutrality and U.N. Charter. Right of Angary, Contraband, Blockade, unneutral Service, Right of Visit and Search.

#### **UNIT-V**

Human Rights: Introduction, Meaning, Definition & Brief History. The Protection of Human Rights Act 1993 National Human Rights Commission, Human Rights Commission of Rajasthan, Role of Judiciary in Promotion and Protection of Human Rights.

Universal Declaration of Human Rights, 1948, Covenant on Civil and Political Rights 1966 and covenant on Economic Social and Cultural Rights, 1966

#### **Leading Cases:-**

- 1 United Kingdom v. Norway (Anglo Norwegian fisheries case)  
ICJ Report 1951 p. 116
- 2 The Nuremberg judgment, International Military Tribunal,  
Nuremberg 1946 AJIL Vol. 41, 1947 p. 172
- 3 In Re Government of India and Mubarak Ali Ahmad 1952 1 II Er 2060

- 4 Khutch Tribunal award case- foreign affairs report volume XVII March 68.
- 5 Right to passage over Indian territory case ICJ Report 1957 p. 125

**Select Bibliography-**

- 1 Stark J.G.: An introduction to International Law
- 2 Oppenheim- International Law Vol. I and II
- 3 Grotious : Modern International Law
- 4 Breirly- The Law of Nations
- 5 Nartin Dixon- Textbook on International Law
- 6 Dr. H.O. Agarwal- International Law and Human Rights
- 7 S.K. Kapoor- International Law, Human Rights (English and Hindi)

**PAPER - 2.6 LABOUR LAWS- I**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**UNIT-I**

**Historical perspective of labour:**

**(i) Labour through the ages:** slave Labour- guild system division on caste basis labour during feudal days.

**(ii) Labour Capital Conflicts:** Exploitation & Labour profit motive, poor bargaining power, poor working condition, unorganized labour bonded labour, surplus, labour division of labour.

**(iii)** Transition from exploitation to protection and from status to contract.

**UNIT -II**

**Industrial Dispute Act:** Scope and Object definitions, assistance to bipartite settlement, work committee, conciliation officer, authorities for saving disputes, reference power. Provision Relating to Lay-off,

**UNIT - III**

**Trade Unionism:**

**Trade Union Freedoms:** International perspective

The history of trade union movement in India, Right to trade union as part of human right, freedom of association- international norms and the Indian constitution The Trade Union Act, 1926: definitions, registration of trade union, functions of registrar, cancellation of registration and incorporation of registered trade unions. Funds- political and general, rights and liabilities of registered trade union, immunities, office bearers, change of name, amalgamation and dissolution of trade union, penalties.

**UNIT-IV**

Complete Factories Act, 1948- Definitions, inspectors, provisions regarding health, safety,

Welfare, provision relating to employment of young person, women workers, Annual leave with wages & Penalties.

#### **UNIT-V**

**Protection of the Weaker Sections of Labour:** Tribal labour: need for regulation, unorganized labour like domestic servants- problems and perspectives, bonded labour,

(Regulation & Abolition Act, 1970), Child Labour Prohibition Act, 1986

#### **Leading Cases:-**

1. Workmen of Indian Standard Institutions v. Indian Standard Institution AIR 1976 SC145.
2. Burmah Shell Co v. Burmah Shell Management Staff Association 1970 I FLL J. 590 SC, AIR 1971 SC 922.
3. Workmen of Firestone Tyre and Rubber Co. Ltd. v. The Management of Firestone Tyre and Rubber Co. Ltd. AIR 1972 SC 1227.
4. Delhi Cloth and General Mills Co Ltd v. Ludh Budh Singh AIR 1972 SC 1031
5. Jay Engineering Works v. State of West Bengal, AIR 1990 Cal 406
6. Bidi Leaves and Tobacco Merchants Association India and other v. State of Bombay AIR 1962 SC 486
7. Bangalore Water Supply v. A. Rajappa AIR 1978 SC 548
8. Express Newspapers Ltd v. Union of India AIR 1958 SC 578

#### **Select Bibliography-**

1. O.P. Malhotra: Law of Industrial Disputes
2. S.C. Srivastava: Social Security and labour laws
3. V.V. Giri: Labour problems in Indian industry
4. R.C. Saxena: Labour problems and social welfare
5. S.N. Mishra: Labour and Industrial Laws
6. Anil Sachdeva: Industrial and Labour Laws
7. K.N. Pillai: Labour and Industrial Laws
8. Ganga Sahai Sharma: Shram Vidhi
9. N.D. Sharma : Shram Vidhi
10. Gopi Krishan Arora : Shram Vidhi

### **PAPER - 2.7 LABOUR LAWS- II**

**Max. Marks: 100**

**Min. Pass Marks: 36**

#### **UNIT -I**

#### **State regulation of industrial relations-**

The Industrial Dispute Act, 1947: Strike and Lockout, Lay off and retrenchment, special provision relation of layoff, public utility services.

Retrenchment and Closure transfer of undertakings, penalties, Change in condition of service during pendency of dispute, unfair labour practices

#### **UNIT -II**

Workmen's Compensation Act, 1923: Historical perspective, Constitutionality of the Act; Definitions, Compensation for workmen; commissions: Appointment, function and power; Jurisdiction of civil court, Registration of agreement; Appeals and Power of State Government to make rules.

#### **UNIT - III**

Employee' State Insurance Act, 1948 Preliminary, definitions, corporation, standing committee and Medical benefit council; Employee State Insurance fund and purpose for which expenses can be incurred from the fund. Contribution Inspection function and duties; Recovery of contribution; Benefits Adjudication of disputes and claims; penalties; Miscellaneous provision.

#### **UNIT -IV**

Payment of Gratuity Act, 1972 Definition; payment of gratuity, forfeiture of gratuity, determination of the amount of gratuity, nomination, rights of the nominees; recovery of gratuity, appointment of inspectors and their powers; penalties, cognizance of offence; protection of action taken in good faith; protection of gratuity.

Maternity Benefit Act, 1961 Definition, Maternity benefits; Right, obligations, Inspectors : appointment, power,, duties, penalties and Miscellaneous provision.

#### **UNIT -V**

**Remuneration for labour-** Theories of wages, concept of wages, components of wages, disparity in wages. The Minimum Wages Act, 1948: objects, definitions, fixation of minimum rates of wages, inspectors, payment of minimum rates of wages, overtime claims. Payment of Wages Act, 1936.

#### **Leading Cases:-**

1. Workmen of Indian Standard Institutions v. Indian Standard Institution AIR 1976 SC145.
2. Burmah Shell Co v. Burmah Shell Management Staff Association 1970 I FLL J. 590 SC, AIR 1971 SC 922.
3. Workmen of firestone Tyre and Rubber Co. Ltd. v. The Management of FirestoneTyre and Rubber Co. Ltd. AIR 1972 SC 1227.
4. Delhi Cloth and General Mills Co Ltd v. Ludh Budh Singh AIR 1972 SC 1031
5. Jay Engineering Works v. State of West Bengal, AIR 1990 Cal 406
6. Bidi Leaves and Tobacco Merchants Association India and otherv. State of Bombay AIR 1962 SC 486.
7. Bangalore Water Suppy v. A. Rajappa AIR 1978 SC 548
8. Express Newspapers Ltd v. Union of India AIR 1958 SC 578

### **Select Bibliography-**

1. O.P. Malhotra: Law of Industrial Disputes
2. S.C. Srivastava: Social Security and labour laws
3. V.V. Giri: Labour problems in Indian industry
4. R.C. Saxena: Labour problems and social welfare
5. S.N. Mishra: Labour and Industrial Laws
6. Anil Sachdeva: Industrial and Labour Laws
7. K.N. Pillai: Labour and Industrial Laws
8. Ganga Sahai Sharma: Shram Vidhi
9. N.D. Sharma : Shram Vidhi
10. Gopi Krishan Arora : Shram Vidhi

## **PAPER - 2.8 ADMINISTRATIVE LAW**

**Max. Marks: 100**

**Min. Pass Marks: 36**

### **UNIT-I**

**Evolution, nature and scope of Administrative Law:** from a laissez faire to a social welfare state, evolution of administration as the fourth branch of government, conseil'detate, definition and scope of Administrative Law, relationship between Constitutional Law and Administrative Law, separation of powers and rule of law

**Civil services in India:** Nature and organization of civil services: from colonial relics to democratic aspiration, powers and functions, accountability and responsiveness: problems and perspective, administrative deviance-corruption, nepotism and mal-administration

### **UNIT-II**

**Legislative powers of administration:** Necessity for delegation of legislative power, constitutionality of delegated legislation- powers of exclusion, inclusion and power to modify statute, requirement for the validity of delegated legislation. Legislative and judicial control of delegated legislation, sub-delegation of legislative powers. publications of delegated legislation, administrative directions, circulars and policy statements.

### **UNIT- III**

**Judicial powers of administration:**

- (i) Need for devolution of adjudicatory authority on administration. Administrative tribunals-need, nature, constitution, jurisdiction and procedure. Distinction between quasi-judicial and administrative functions.
- (ii) Principles of natural justice- the right to hearing- essential of hearing process, no man shall be judge in his own cause, no man shall be condemned unheard, reasoned decisions, the right to counsel.

## UNIT- IV

**Judicial control of administrative action:** grounds-jurisdictional error, ultravires, abuse and non exercise of jurisdiction, error apparent on the face of record, violation of principles of natural justice, violation of public policy, unreasonableness and legitimate expectation. Remedies in judicial review, writs, declaratory judgments and injunctions, specific performance and civil suits for compensation.

**Administrative discretion:** Need for administrative discretion, administrative discretion and rule of law, limitations on exercise of discretion-malafide exercise of discretion, constitutional imperative and use of discretionary authority.

## UNIT- V

**Contractual and tortious liability of state:** Tortious liability, sovereign and non sovereign functions, statutory immunity, act of state, contractual liability of government, government privilege in legal proceedings-state secrets, public interest, transparency and right to information.

**Corporation and Public undertakings:-** State monopoly, liability of public and private corporations- departmental undertakings, legislative and governmental control, legal remedies, accountability- committee on public undertakings, estimate committee.

**Public inquiries and commission inquiry, ombudsman:**

Lokpal, Lokayukta, Vigilance Commission, Parliamentary Committees.

**Right to Information Act, 2005**

**Leading cases:**

- 1 A.K. Kraipak v. Union of India AIR 1970 SC 150
- 2 In re Delhi Laws Act, AIR 1951 SC 332
- 3 Raj Narayan v. Chairman, Patna Administration Committee Patna AIR 1954 SC 569
- 4 Syed Yaqoob v. Radha Krishnan AIR 1964 SC 477
- 5 Rohtash industries Pvt Ltd v. S.D. Agarwal AIR 1969 SC 707
- 6 State of Karnataka v. Union of India AIR 1978 SC 68

**Select Bibliography:**

- 1 M.C.J kagzi- The Indian Administrative Law
- 2 I.P. Massey: Administrative Law
- 3 D.D. Basu: Administrative Law
- 4 M.A. Fazal: Judicial control of Administrative action in India, Pakistan and Bangladesh
- 5 Wade: Administrative Law
- 6 S.P. Sathe: Administrative Law
- 7 U.P.D. Kesari: Prashasnic Vidhi
- 8 Jain and Jain- Principles of Administrative Law
- 9 J.J.R. Upadhayay- Prashasnic Vidhi

## **PAPER - 2.9 (A) TAXATION LAWS**

**Max. Marks: 100**

**Min. Pass Marks: 36**

### **UNIT-I**

**Basic concept:** Assessment year, Previous year, Person, Assessee, Income, Agricultural Income, Casual Income, Capital Asset, Charitable purpose, Total Income, Gross Total Income, step system and slab system, Capital and Revenue, Avoidance of tax and tax evasion, Income tax authorities. Residential; status and Tax Incidence – Exemptions and deductions of Income

**General Perspective:** History of tax law in India, fundamental principles relating to tax laws, concept of tax, nature and characteristics of taxes, distinction between tax and fees, tax and Access, direct and indirect taxes, tax evasion and tax avoidance, scope of taxing powers of parliament, state legislature and local bodies.

### **UNIT-II**

Income Tax Act, 1961, Income under the Head 'Salaries' Income from House Property, Income of other persons included in Assessee's Total income.

### **UNIT-III**

Profits and Gains of Business or Profession, Depreciation allowance, Capital Gains, Income from other sources, Set off and carry forward of losses

### **UNIT-IV**

Return of Income, Assessment and Re-assessment, Assessment of Firms and Partners and Penalties offences and prosecution under this Act, Appeal and revision

### **UNIT-V**

#### **Wealth Tax Act:**

Valuation date, Net Wealth, Incidence of Tax, Assets, Assets exempted from Tax Return of Wealth, Assessment, Time limit for completion of assessment

#### **Key Features of The Central Goods And Services Tax Act, 2017**

#### **Leading Cases:**

- 1 P. Krishana Menon v. CIT, AIR 1956 SC 75
- 2 CIT West Bengal v. Benoy Kumar Saha Roy, AIR 1957 SC 761
- 3 Mala Ram & Sons v. CIT AIR 1956 SC 367
- 4 Pingle Industries Ltd v. CIT AIR 1960 SC 1934
- 5 Banaras Cloth Dealers Syndicate v. Benaras 1964 ITR 50
- 6 CIT v. Kothari (1963) 40 ITR 107 (SC)

#### **Select Bibliography**

- 1 Ramesh Sharma, Supreme Court on Direct taxes
- 2 Kanga and Palkiwala, The Law and practice of Income Tax
- 3 R.V. Patel, The Central Sales Tax Act
- 4 S.D. Singh, Principles of Law of Sales Tax
- 5 H.C. Malhotra, Aykar Vidhan Lekha

- 6 Bhagwati Prasad, Ayakar Vidhi
- 7 S. Bhattacharya : Indian Income Tax Law and Practice.
- 8 A.K. Saxena : Law on Income tax in India.
- 9 Nathulal Jain : Ayakar Vidhi.
- 10 Kailash Rai: Ayakar Vidhi.

## **PAPER - 2.9 (B) INSURANCE LAW**

**Max. Marks: 100**

**Min. Pass Marks: 36**

### **UNIT- I**

**Introduction- definition**, nature and history of insurance, concept of insurance and law of contract and law of torts, future of insurance in globalize economy, history and development of insurance in India, insurance regulatory authority- role and functions.

**General principles of law of insurance-** Contract of insurance- classifications of contract of insurance, nature of various insurance contracts and parties thereto principle of good faith, insurable interest, the risk, the policy-classification of policies- its forms and contents, its commencements, duration, cancellation, alteration, rectification, renewal, conditions of the policy.

### **UNIT- II**

**Life Insurance:** Nature and scope of life insurance, definition, kinds of life insurance, the policy and formation of a life insurance contract, event insured against life insurance contract, circumstances affecting the risk, amount recoverable under life policy, persons entitled to payment and settlement of claims.

### **UNIT- III**

**Marine Insurance:** (The Marine Insurance Act, 1963) Nature, scope, classification of marine policies, insurable interest, insurable value, conditions of policy. Voyage-deviations, perils of the sea, partial loss of ship and of freight, salvage, general average, particular charges, measure of indemnity, total valuation, liability to third parties.

**Fire insurance:** nature of fire insurance contract, non-disclosure and misrepresentation, standard fire policy, proximate cause, claims.

### **UNIT- IV**

**Insurance against third party risks:** The Motor Vehicle Act 1988-chapter VIII- definitions, abuse, drives and motor vehicles, requirements of policy, statutory contract between insurer and drive rights of third parties, limitation of third party's rights, duty to inform third party, claims tribunal- constitution, functions, applications for compensation-who can apply? Procedure and powers of claims tribunal-its award

### **UNIT- V**

**Social insurance in India:** important elements in social insurance, its needs, commercial insurance and social insurance. Sickness insurance, Adarkar Scheme, Stack and Rao

scheme for wage earners and others risks covered, maturity and other benefits. Old age, premature death and invalidity insurance or pension insurance, public provident fund, unemployment insurance, social insurance for agricultural and un-organized labourers.

**Public liability insurance:** the scheme and authorities

**Leading cases:**

- 1 Glickman v. Lancashire and General Assurance Co. (1925) 2 KB 593
- 2 Johnson v. Marshall (1906) AC 409
- 3 Digby v. General Accident Fire and Life Insurance Co. Ltd. (1943) AC 121
- 4 Minu B. Mehta v. Balakrishna AIR 1977 SC 1248
- 5 Prudential Insurance Co. v. Inland Revenue Commissioner (1904) 2 KB 658.

**Select Bibliography**

- 1 Singh, B Anand, New Insurance Law
- 2 Sreenivasan, M.N.- Principles of Insurance Law
- 3 Banerjee, Law of Insurance
- 4 Mitra, B.C., Law relating to Marine Insurance
- 5 Srivastava, Blachand: Elements of Insurance
- 6 Dravid and Joshi: Bima Siddhant evam Vyavahar.

## **PAPER - 2.9 (C) BANKING LAW INCLUDING NEGOTIABLE INSTRUMENT ACT, 1881**

**Max. Marks: 100**

**Min. Pass Marks: 36**

### **UNIT- I**

**Introduction:** Banking: definition-common law and statutory law  
Commercial Banks: functions  
Agency services  
General utility services  
International trading service  
Information services  
Systems of banking: unit banking, branch banking, group banking and chain banking, banking companies in India.

### **UNIT- II**

**Banks and Customers:**

- Customer meaning
- Banker and customer relationship
- Rights and obligations of banks- Right of set off, banker's lien, right to charge interest and commission, obligation to honour customer's cheques.
- Duty- Duty of confidentiality, nature and justification of the duty, exceptions
- Accounts of Customers- Current accounts, deposit accounts, joint accounts, trust accounts.

### **UNIT- III**

**Control over Banks:** Control by Government and its agencies  
Need for elimination of systematic risk, avoidance money Laundering, consumer protection, promotion of fair

competition, Account, audit, money lending, re-organization and reconstruction, supervision and winding up. Control by ombudsman Reserve Bank of India (RBI) Act, 1934: definition, functions and powers, supervision and control over the other banks, control over non-banking financial institutions, capital management and business, determination of bank rate policy.

#### **UNIT- IV**

##### **Lending by Banks**

Principles of good lending, Securities for bank advances- pledge, mortgage, charge, goods or documents of title to goods, life insurance policies as securities, debentures as security, guarantee as security. Contract of guarantee and contract of indemnity, Repayment, interest: rule against penalties. Default and recovery- debt recovery tribunals- constitution and functioning.

##### **Letter of Credit and Demand guarantee**

Letter of credit, Basic features Parties to a letter of credit Fundamental principles Demand guarantee- legal character, distinction between irrevocable letter of credit and demand guarantees

#### **UNIT- V**

##### **Law relating to negotiable instruments: (Negotiable Instruments Act, 1881)**

Negotiable instruments- kinds, Holder and holder in due course, Parties, negotiation, presentment, Discharge from liability, **Dishonour**- civil and criminal liability Duty to honour customer's cheques- conditions, exceptions to the duty to honour cheques Money paid by mistake The collecting banker- liability for conversion, duties, good faith and statutory protection to the collecting banker.

##### **Leading Cases:**

- 1 A.B. Miller v. National Bank of India ILR 19 Cal 146
- 2 National Insurance Co. Ltd v. Seema Malhotra (2001) ILRI 543
- 3 Radha Kisan v. Hira Lal AIR (1919) Nag 39
- 4 Maneckji Pestonji Bharucha v. Wadilal Sarabhai AIR 1926 PC 38
- 5 Nawab Major Sir Mohammad Akbar Khan v. Attar Singh AIR 1936 PC 171

##### **Select Bibliography-**

- 1 S.N. Gupta, The Banking Law in theory and practices.
- 2 S.N. Gupta, Banks and the consumer protection law.
- 3 Mukherjee, T.K.- Banking Law and Practice.
- 4 Shekhar K.C- Banking theory and practice.
- 5 Kailash Rai- Negotiable Instrument Act.
- 6 Sharma and Sharma- Banking Vidhi.
- 7 Mangilal Sharma: Banking Vidhi Evam Vyavhar

**PRACTICAL PAPER**  
**PAPER - 2.10 PUBLIC INTEREST LAWYERING;**  
**LEGAL AID AND PARA LEGAL SERVICES**

The paper shall consist of following two parts:

**A. WRITTEN PAPER**

**Max. Marks: 80**

**Min. Pass Marks: 29**

**B. PRACTICAL PAPER**

**Max. Marks: 20 Marks**

**Min. Pass Marks: 07**

The practical exam shall be conducted by a committee of 2 examiners. In this committee there shall be one internal examiner and one external examiner.

**A. Written Paper**

**UNIT-I**

**Introduction PIL:** its origin and meaning Scope and nature of PIL Object of PIL, PIL and Private Interest Litigation

**Locus Standi:** Principle of locus standi- traditional approach Liberal approach Guidelines for entertaining a PIL Petition by public spirited person or association Misuse of PIL

**PIL and enforcement of Fundamental Rights:** General Compensation for breach of fundamental rights Compensation for illegal detention Compensation to victim of police atrocities. PIL as a redress to custodial violence cases. PIL and Environmental Law

**UNIT- II**

**Pollution- a curse to mankind**

Pollution free environment as a fundamental right

Enforcement of environmental laws through filing PIL

**PIL for the enforcement of the rights of weaker sections of the society**

For the enforcement of the rights of women

For the enforcement of the rights of children

For the enforcement of the rights of bonded labour

**UNIT- III**

**Legal Aid:** Meaning, Nature, Scope, and Development Constitutional provisions; Provision of civil procedure code and code of criminal procedure regarding legal aid The Legal Services Authorities Act and legal aid.

**Drafting of PIL petitions and writing of applications for legal aid**

**UNIT-IV**

**The Legal Services Authorities Act, 1987 (as amended by the Act of 2002)**

**The national legal services authority:** constitution and functions

**State legal services authority:** constitution and functions

**District legal services authority:** Taluk legal services committee, constitution and functions

**Lok Adalat:** organization, cognizances of cases, award and powers.

Pre litigation, conciliation and settlement

**Permanent lok adalat:** establishment, cognizance of cases, procedure and award

**The Rajasthan State Legal Services Authority Regulations, 1999:** Legal literacy, legal awareness committee: Constitution and functions of High Court and District Legal awareness committee Organization of legal awareness camps by law schools Role of voluntary organizations

**Leading Cases:**

1. Bandhua Mukti Morcha v. Union of India AIR 1984 SC 802, (1984) 3 SCC 161
2. Olga Tellis v. Bombay Municipal Corporation (1985) 3 SCC 545, AIR 1986 SC 180
3. Sukdas v. Union Territory of Arunachal Pradesh (1986) 2 SCC 401, AIR 1986 SC 991
4. Sheela Barse v. State of Maharashtra AIR 1983 SC 378

**Select Bibliography**

1. Dr. S.R. Myneni- Public Interest lawyering legal aid and para legal services
2. Sujan Singh- Legal aid-human right to equality
3. S.S. Sharma- legal assistance to Poor
4. P.N. Bhagwati- legal aid as human right
5. P.N. Bajpayee- Legal aid and the Bar council
6. Sunil Deshtra- lok adalats in India- genesis and functioning
7. Sampat Jain- Public Interest Litigation
8. Dr. Kailash Rai- Janhit Vakalat, vidhik sahyog evam ardh vidhik sevayen.
9. Suresh Bhatia- Nirdhan Vidhik Shayta, Rajasthan Hindi Granth Academy
10. P.M. Bakshi- Public Interest Litigation

**B. PRACTICAL PAPER**

The candidate shall be required to attend at least two legal aid camps organized by the college. The candidate shall also be required to present a report regarding the problem along with his suggestions.

- (1) Attendance at the legal aid camp and  
Submission of report- 10 Marks
- (2) Viva voce- 10 Marks

The Viva-voce examination shall be conducted by a committee of 2 persons. In this committee there shall be one internal examiner and one external examiner.

# LL.B. THIRD YEAR EXAMINATION

## COURSE CONTENTS

### **Note: Theories Paper (Compulsory and Optional Both)**

The syllabus has been divided into five units. Questions will be set from each unit.

The questions paper shall contain three sections. Section A shall contain 10 questions two from each unit of 2 marks each. The Candidate is required to answer all the questions. The answers should not exceed 50 words. Section B shall contain 5 questions one from each unit with internal choice each question shall be of 8 marks. The answers should not exceed 200 words. The candidate is required to answer all the questions. Section C shall contain 5 questions of 20 marks each, one from each unit. The candidate is required to answer any 2 questions. The answers shall not exceed 500 words.

In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the question set in the previous examination.

In the case of discrepancies between English and Hindi Version, English Version will prevail.

Acts are to be read with their Amendments

### **Practical Paper:**

The syllabus has been divided into four units. Questions will be set from each unit.

The questions paper shall contain three sections. Section A shall contain 8 questions two from each unit of 2.5 marks each. The Candidate is required to answer all the questions. The answers should not exceed 50 words. Section B shall contain 4 questions one from each unit with internal choice each question shall be of 10 marks. The answers should not exceed 200 words. The candidate is required to answer all the questions. Section C shall contain 4 questions of 20 marks each, one from each unit. The candidate is required to answer any 1 question. The answers shall not exceed 500 words.

In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the question set in the previous examination.

In the case of discrepancies between English and Hindi Version, English Version will prevail.

Acts are to be read with their Amendments.

## 3.1 LAW OF EVIDENCE

**Max. Marks: 100**

**Min. Pass Marks : 36**

### UNIT- I

**Preliminary:** Application of Indian Evidence Act. Definitions: Court, fact-fact in issue and relevant fact, evidence - meaning and its kinds, proved, disproved, not proved, may presume, shall presume and conclusive proof, Presumptions of fact and law, presumptions regarding documents. Relevancy of facts: Explaining Res-gestae,

occasion, cause, effect; motive, intention, preparation, previous and subsequent conduct, introductory and explanatory facts, facts not relevant when become relevant, accidental and incidental facts, Facts which need not be proved, improper admission and rejection of facts.

## UNIT-II

### **Admission and Confession:**

- (a) Admission: Definition, whose admission is relevant, relevancy of admission in civil cases, admission is not conclusive proof. Admission and Estoppel.
- (b) Confession: definition, its kinds, confession caused by inducement, threat or promise, confession to police officer, confession in the custody of police, confession to Magistrate, confession by co-accused.
- (c) Difference between admission and confession, Relevancy of statements.
- (d) Dying Declarations- The justification for relevance on dying declarations (Section 32), The judicial standards for appreciation of evidentiary value of dying declarations.

Other Statement by Persons who cannot be called as Witnesses - General Principles, Special problems concerning violation of women's rights in marriage in the law of evidence.

## UNIT- III

### **Statement made under special circumstances**

#### **Relevancy of judgement of a court of law**

#### **Opinion of third person**

#### **Opinion of experts / third person**

#### **Relevancy of character**

**Evidence:** Oral evidence, documentary evidence, kinds of documentary evidence, when secondary evidence is relevant. Public and private document. Exclusion of oral evidence by documentary evidence: Application of this principle and its exceptions, ambiguous documents, kinds of ambiguity.

## UNIT- IV

**Burden of Proof:** Meaning, general principles of burden of proof in civil and criminal cases and exceptions to it. When burden of proof shifts, proof of legitimacy of child, proof in dowry deaths and in the matters of rape.

**Estoppels:** meaning, essentials, nature and its kinds. Competency of witnesses, when a person can be compelled to appear as witness, privileged communications and documents, accomplice, hostile witness.

## UNIT- V

**Examination of Witnesses:** Order of examinations. kinds of examinations. leading question, impeaching the credit of witness, questions which can and which cannot be asked, refreshing the memory of witness, production of documents, Judge's power to put questions and to order production. Effect of improper acceptance or rejection of evidence.

**Leading Cases:**

1. Nishi Kant Jha v. State of Bihar, AIR 1969 SC 422.
2. Himachal Pradesh Administration v. Om Prakash AIR 1972 SC 975.
3. Sat Paul v. Delhi Administration, AIR 1976 SC 294.
4. Laxmipat Chorasias v. State of Maharashtra, AIR 1968 SC 938.
5. Pakala Narayan Swami v. Emperor, AIR 1939 PC 47.
6. Bhardwade Bhogin Bhan Herrji Bhai v. State of Gujarat AIR 1988 SC 753.
7. RM Malkani v. State of Maharashtra, AIR 1973 2SCR 417

**Select Bibliography:**

1. Ratan Lal - The law of Evidence
2. Batuklal - Law of Evidence
3. Vepa P. Sarathi - Law of Evidence
4. Raja Ram Yadav - Law of Evidence (Hindi)
5. Shyam Sunder Sharma - Law of Evidence (Hindi)

**PAPER - 3.2, THE CODE OF CRIMINAL PROCEDURE, 1973, JUVENILE JUSTICE ACT, 2015 AND PROBATION OF OFFENDERS ACT, 1958.**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**UNIT- I**

**The Code of Criminal Procedure, 1973**

**1. Preliminary:**

- (a) Object, Extent and definitions (Chapter 1)
- (b) Duties of Public:
  - (i) To assist to police and Magistrate
  - (ii) To give information about certain offences (Chapter IV Ss. 37 to 40)

**Criminal Courts** (a) Territorial divisions and Classifications (Chapter II, Ss 6 to 25).

- (b) Powers (Chapter III, Ss. 26 to 31).

**UNIT- II**

**Pre-Trial Procedure:**

- (a) Arrest of Persons (Chapter V)
- (b) Process to compel appearance (Chapter VI).
- (c) Process to compel Production of things (Chapter VII).
- (d) Information to the Police and their powers of Investigation (Chapter XII)
- (e) Bail (Chapter XXXIII).

- (f) Jurisdiction of the courts in inquiries and trials (Chapter XIII); Order to furnish security for keeping peace and good behaviour (ss. 106-124)
  - (g) Maintenance of Public Order and Tranquillity (Chapter-X)
- Conditions requisite for initiation of proceedings, Complaints to Magistrates, Cognizance of Offence and Charge (Chapter XIV, XV and XVII).

### **UNIT-III**

#### **Types of Trials**

- (i) Trial before Court of Session (Chapter XVIII).
- (ii) Trial of Warrant and Summons Cases (Chapter XIX & XX)
- (iii) Summary Trials (Chapter XXI)
- (iv) Maintenance of Wife, Children and Parents (Sec. 125 to 128).

### **UNIT - IV**

#### **Judgment (Chapter XXVII)**

- (a) Appeal (Chapter XXIX) Reference and revision (Chapter XXX).
- (b) Misc. Provisions:
  - (i) Irregular proceedings (Chapter XXXV)
  - (ii) Period of Limitation (Chapter XXXVI)
  - (iii) Autrefois acquit and Autrefois convict (Sec 300).
  - (iv) Legal Aid to the accused at State Expenses (S. 303 & 304)
  - (v) Pardon to an accomplice (Sec 306 to 308)
  - (vi) Saving of Inherent powers of High Court (Sec. 482).

### **UNIT- V**

#### **The Juvenile Justice Act, 2015.**

Definitions, Competent authorities and institutions for juveniles, Neglected Delinquent Juveniles. Procedures and competent authorities, special offences in respect of juveniles.

#### **Probation of offenders Act, 1958:**

Definitions, Power of court to require released offenders after admonition on probation of good conduct, power of Court to require released offenders to pay compensation under twenty one years of age, Variations of conditions of probation, Probation in case of 'Offender' failing to observe conditions of bond, provision as to sureties, Probation Officers, Duties of Probation Officers.

#### **Leading Cases:**

1. Tehsildar Singh v. State of UP , AIR 1959SC. 1012
2. State of U.P. v. Singhara Singh, AIR 1964 SC 359.
3. Nisar Ali v. State of U.P. AIR 1957 SC 336.
4. Purshottam Das Dalmia v. State of West Bengal, AIR 1961 SC. 1589.
5. State of Andhra Pradesh v. Cheemalapati Ganeshwara Rao, AIR 1963 SC 1850
6. Satwant Singh v. State of Punjab, AIR 1960 S.C. 266.

**Select Bibliography :**

- 1.Ratan Lal : Criminal Procedure Code.
- 2.Bhadu Vinod :Criminal Procedure Code (Hindi/English)
- 3.Kelkar R.V. : Criminal Procedure Code
- 4.Probation of Offenders Act, 1958.
- 5.Chakravarti,N.K. - Probation system - in the Administration of Criminal justice.
- 6.Tiwari Y.K.- CR.P.C (Hindi)
- 7.Thakker C.K. : Criminal Procedure Code.
- 8.M.D. Chaturvedi- CR.P.C etc. (Hindi)
- 9.B.L. Babel- CR.P.C (Hindi)

**PAPER 3.3. THE CODE OF CIVIL PROCEDURE 1908  
AND THE LIMITATION ACT, 1963**

**Max. Marks: 100**

**Min. Pass Marks 36**

**UNIT-I**

Definitions, suits in general, suits of civil nature, stay of suit, Res judicata, Res subjudice, Foreign Judgment

**UNIT-II**

Place of trial, Transfer of suits, Joinder, non-joinder and mis-joinder of parties and causes of action, Service of Summon, Attachment before judgment, Arrest before Judgment. Supplemental proceedings.

**UNIT- III**

**Execution in general:** Courts by which decrees may be executed, powers of the court executing the decrees. Transfer of decrees for execution and modes of execution, Stay of execution, Suits in particular cases (Orders xxix to xxxiii). Abatement of suits, summary proceedings.

**UNIT- IV**

Temporary injunction and Appointment of Receiver, Appeals-Appeals against order and appeal against decree, Review. Revision and Reference, Transfer of cases, Restitutions, Caveat, Inherent powers

**UNIT- V**

**The Limitation Act, 1963 (Omitting the Schedule) Definitions:** Purpose, Policy, Scope, Applicant, bond, Defendant, easement, good faith, plaintiff, period of limitation Relationship between limitation, laches, acquiescence, estoppels and res judicata; Limitation of suits, appeals and applications, disability, computation of period of limitation, acknowledgement and part payment, acquisition of ownership by prescription

**Leading Cases:**

1. Shri Sinha Ramanuja v. Ranga Ramanuja, AIR 1961 SC 1720.
2. Seth Hukamchand v. Maharaja Bahadur Singh AIR 1933 PC 193

- 3.Narain Bhagwant Rao v. Gopal Vinayak AIR 1960 SC 100
- 4.Garikapati Veerava v. Subbiah Chaudhary, AIR 1957 SC 540.
- 5.Deoki Nandan v. Murlidhar, AIR 1957 SC 133.
- 6.Deity Pattabhirama Swamy v. Hanmayya, AIR 1959 SC 57.
- 7.S.M. jakati v. B.M. Borker, AIR 1959 S.C. 282.

**Select Bibliography:**

- 1.Mulla- Civil Procedure Code.
- 2.Singh S.N. - Civil Procedure Code.
- 3.Sahai on Civil Procedure.
- 4.Tandon, M.P. - Civil Procedure Code (English & Hindi)
- 5.Mridula Srivastava - Civil procedure Code (Hindi)
- 6.A.N. Pandey - Civil Procedure Code (Hindi)
- 7.C.K. Tekwani- Civil Procedure Code
- 8.T.P. Tripathi- Civil Procedure Code (Hindi)

**PAPER - 3.4 LEGAL LANGUAGE, LEGAL WRITING INCLUDING  
GENERAL ENGLISH AND INTERPRETATION OF STATUTES.**

**Max. Marks : 100**

**Min. Pass Marks:36**

**UNIT-I**

Meaning of interpretation, its distinction from constructions, kinds of interpretation Grammatical and logical, intention of legislation Cardinal principles of interpretation; Plain meaning rule; Golden rule and mischief rule, Aids to interpretation, Internal : Long title, Preamble, Headings, marginal Notes, Nonobstante clause, Punctuation, Proviso, External : Parliamentary History; legislative debate, Reports of Committees and Commission, Statement of Objects and Reasons, Historical facts and surrounding circumstance, Dictionary.

**UNIT-II**

Maxims of interpretation: Ejusdem Generis, Noscitur a Sociis, Utres magis valeat qvam pereat, Statute in pari materia, Operation of statutes, Expiry and repeal of Statutes, Mandatory provisions, Use of Statutes, Construction of Fiscal Statutes Interpretation of Penal Statutes and Interpretation of Constitution, colourable legislation, Doctrine of pith and substance and Doctrine of eclipse, etc.

**UNIT-III**

Vocabulary: Use of legal phrases and terms; pairs of words; one word substitution

**(A) Vocabulary:**

**List of Legal terms which are relevant for LL.B. students:**

|             |              |            |
|-------------|--------------|------------|
| Abet        | Abstain      | Accomplice |
| Act of God  | Actionable   | Accused    |
| Adjournment | Adjudication | Admission  |

|                |                    |                   |
|----------------|--------------------|-------------------|
| Affidavit      | Amendment          | Appeal            |
| Acquittal      | Articles           | Assent            |
| Attested       | Attornment         | Averment          |
| Bail           | Bailment           | Citation          |
| Clause         | Coercion           | Code              |
| Cognizable     | Confession         | Compromise        |
| Consent        | Conspiracy         | Contempt          |
| Contingent     | Contraband         | Conviction        |
| Convention     | Corporate          | Custody           |
| Damages        | Decree             | Defamation        |
| Defence        | Excheat            | Estoppel          |
| Eviction       | Executive          | Ex-parte          |
| Finding        | Floating charge    | Forma Pauperis    |
| Franchise      | Fraud              | Frustration       |
| Goodfaith      | Guardian           | Habeas Corpus.    |
| Hearsay        | Homicide           | Hypothication     |
| Illegal        | Indemnity          | Inheritance       |
| Bench          | Bill               | Bill of attainder |
| Bill of rights | Blockade           | Bonafide          |
| By-laws        | Capital Punishment | Charge            |
| Chattles       | Justiciable        | Legislation       |
| Legitimacy     | Liability          | Liberty           |
| Licence        | Lien               | Liquidation       |
| Maintenance    | Malafide           | Malfeasance       |
| Minor          | Misfeasance        | Mortgage          |
| Murder         | Negligence         | Negotiable        |
| Instruments    | Neutrality         | Non-feasance      |
| Notification   | Novation           | Nuisance          |
| Oath           | Obscene            | Offender          |
| Order          | Ordinance          | Over-rule         |
| De-facto       | De Jure            | Deposit           |
| Detention      | Discretion         | Distress          |
| Earnest Money  | Enact              | Enforceable       |
| Equality       | Partition          | Perjury           |
| Petition       | Plaintiff          | Pledge            |
| Preamble       | Pre-emption        | Prescription      |
| Presumption    | Privilege          | Privity           |
| Prize          | Process            | Promissory Note   |
| Proof          | Proposal           | Prosecution       |

|                   |                 |                      |
|-------------------|-----------------|----------------------|
| Proviso           | Ratify          | Receiver             |
| Redemption        | Reference       | Regulation           |
| Remand            | Remedy          | Rent                 |
| Repeal            | Res Judicata    | Respondent           |
| In Limine         | Insanity        | Institute            |
| Insurance         | Interstate      | Issue                |
| Judgement         | Judicial        | Jurisdiction         |
| Justice           | Restitution     | Rule                 |
| Ruling            | Schedule        | Section              |
| Settlement        | Sovereignty     | Specific Performance |
| Stamp duty        | Status quo      | Statute              |
| Stay of execution | Succession      | Summons              |
| Surety            | Tenant          | Testator             |
| Testatrix         | Title           | Tort                 |
| Trade Mark        | Treason         | Treaty               |
| Trespass          | Trial           | Tribunal             |
| Ultra Vires       | Undue influence | Usage                |
| Valid             | Verdict         | Vested               |
| Violate           | Vis-major       | Void                 |
| Voidable          | Wager           | Waiver               |
| Warrant           | Warranty        | Will                 |
| Writ              | Wrong           |                      |

#### **UNIT-IV**

Latin maxims: Meaning and use in sentences; Comprehension of legal texts; précis writing

#### **LIST OF LATIN MAXIMS:**

1. Ab initio (from the beginning)
2. Actio personalis moritur cum persona (Personal actions die with the death of person).
3. Actus Curiae neminem gravabit (an act of the court shall prejudice no one).
4. Actus non facit reum, nisi mens sit rea (the act itself does not constitute guilt unless done with a guilty intent).
5. Actus reus (wrongful act).
6. Ad interim (in the meantime)
7. Ad litem (for the suit).
8. Ad valorem (according to the value).
9. Alibi (Plea of being elsewhere)
10. Amicus curiae (friend of the court)
11. Animus (Intention)
12. Audi alteram partem (hear the other side).
13. Caveat emptor (buyer beware).

14. Consensus ad idem (agreement by two persons upon the same thing in the same sense).
15. Damnum sine injuria (damage without injury).
16. De facto (in fact).
17. De jure (in law).
18. De minimis non curat lex (the law takes no account of trifling matters).
19. Decree nisi (a decree which takes effect after a specified period).
20. Delegatus non potest delegare (a delegated power can not be further delegated).
21. Doli incapax (incapable in malice).
22. Donatio mortis causa (gift by a person on the death bed).
23. Ejusdem generis (of the same category).
24. Eminent domain (the supreme right).
25. Ex-officio (by virtue of an office).
26. Ex-parte (not in the presence of the opposite party).
27. Ex-post-facto (by subsequent act).
28. Factum valet (the fact which cannot be altered).
29. Fait accompli (an accomplished fact).
30. Ignorantia legis neminem excuset (ignorance of law is no excuse).
31. In pari materia (in an analogous case, cause or position).
32. Injuria sine damno (injury without damage)
33. Interest republicae ut sit finis litium (it is in the interest of the republic that there should be an end of law suit).
34. Intra-vires (within the powers)
35. Jus tertii (The right of a third party)
36. Lis pendens (pending suit)
37. Mens rea (a guilty mind)
38. Mesne profits (the profits received by a person on wrongful possession).
39. Nemo det quod non habet (no man can't transfer better title than he has himself).
40. Nemo det bis vexari pro et idem causa (no man be twice vexed for the same cause).
41. Nemo in propria causa judex esse debet (no one ought to be a judge in his own case)
42. Nolle prosequi (to be unwilling to prosecute).
43. Obiter dicta (an opinion of law not necessary to the decision)
44. Onus probandi (the burden of proof)
45. Pacta sunt servanda (pact must be respected)
46. Pendente lite (during litigation)
47. Per Capita (per head)
48. Per incuriam (through inadvertence or carelessness).
49. Per stripes (by stocks)
50. Plenum dominium (full stocks)
51. Pro bono publico (for the public good)
52. Ratio decidendi (grounds for decision, principles of the case).

53. Res geste (connected facts forming the part of the same transaction).
54. Res ipsa loquitur (the thing speaks for itself)
55. Res judicata (a matter already adjudicated upon).
56. Res nullius (an ownerless thing)
57. Rule nisi (a rule or order upon condition that is to become absolute when cause is shown to the contrary).
58. Status quo (existing position)
59. Sub judice (in course of adjudication).
60. Sui juris (one's own right).
61. Suo motu (of one's own accord)
62. Ubi jus ibi remedium (where there is a right, there is a remedy).
63. Ultra vires (beyond the powers of).
64. Volenti non fit injuria (Risk taken voluntarily is not actionable).

#### **UNIT-V**

Writing of legal drafts letters and applications; Essay writing on topics of legal interest; Translation from Hindi to English and English to Hindi.

Note : Except in a question relating to translation from English to Hindi; answers to Questions asked in unit 3, 4 & 5th are to be given in English.

#### **Select Bibliography:**

1. Galnville William : Learning the Law.
2. Wren & Martin : English Grammar.
3. Ganga Sahai Sharma : Fundamental of Legal Writing.
4. Hindi-English Legal glossary : Vidhi Sahitya Prakashan, Ministry of Law, Government of India, New Delhi.
5. David Green : Contemporary English Grammar, structure and composition.
6. Ishtiaque Abidi : Law and Language.
7. Law Lexicon & Legal Maxims by Venketaramanaija.

#### **Leading Cases :**

1. Heydon's Case (1584) 3 Co Rep. 7a p. 76: ER 637
2. Bengal Immunity Company v. State of Bihar, AIR 1955 SC 661.
3. Alamgir v. State of Bihar, AIR 1959 SC 436.
4. Inder Singh v. State of Rajasthan, AIR 1957 SC 510.

#### **Select Bibliography:**

1. Maxwell - The interpretation of Statutes.
2. Crawford - Statutory constitution.
3. Craies - Statute Law.
4. Swarup - Interpretation of Statutes.
5. Bindra - Interpretation of Statutes.
6. Sarathi - Interpretation of Statutes.

7. Bhattacharya, T., - Interpretation of Statutes (English & Hindi)
8. Radha Gupta- Interpretation of Statutes (Hindi)
9. Anirooudh Prasad : Interpretation of Statutes (Hindi)
10. Jain R.L. : Legal Writing and Legal Language.

**PAPER - 3.5 TRUST, EQUITY AND  
FIDUCIARY RELATIONS**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**UNIT- I**

**Equity:** Concept of Equity –Place function Nature of Equity, Origin and Growth of Equity in England-

**UNIT- II**

**Maxims of equity:** Equitable rights - Equitable remedies.

**UNIT-III**

**Indian Trust Act, 1882:** Definition- Creation of Trusts- Duties and liabilities of Trustees- Rights and Powers of trustees- Disabilities of trustees- Rights and Liabilities of the Beneficiary, Vacating the office of Trustees- Extinction of Trust- Certain obligations in the nature of Trust.

**UNIT- IV**

**Rajasthan Public Trust Act, 1959:** Definition and Validity of certain public trust- Registration of Public Trust- Management of Public Trust property- Powers of officers in relations to Public Trust-

**UNIT- V**

**Control of Public Trust-** Special provisions in respect of certain trust- Dharmada, Procedure and Penalties.

**Fiduciary Relation:** Fiduciary Relationship, Definition, Kinds, classification, Fiduciary principle.

**Leading Cases:**

1. Hindu religious Endowments, Madras v. Shri Lakshmindar Thiratha Swamiar of Shri Shirur Mutt, AIR 1954 SC 282.
2. Durgah Committee, Ajmer v. Syed Hussain Ali AIR 1961 SC 1402.
3. Surajmal Singhvi v. State of Rajasthan , 1966 RLW 556.
4. Tilakayat Shri Govindlalji v. State of Rajasthan, AIR 1963 SC 1630.

**Select Bibliography:**

1. Upadhyaya, J.J. R.- Equity, Trusts with Fiduciary Relation and Specific Relief.
2. Gandhi, B.M- Equity, Trusts and Specific Relief.

3. Varadachari, V.K.- Law of Hindu Religious and Charitable Endowments.
4. Varadachari, V.K. - Public Trusts and Taxation.
5. सिंह, जी.पी. : साम्या, न्यास एवं विशिष्ट अनुतोष अधिनियम

**PAPER 3.6 OPTIONAL PAPER (ANY ONE)**  
**PAPER - 3.6 (A) CRIMINOLOGY AND PENOLOGY**

**Max. Marks : 100**

**Min. Pass Marks : 36**

**UNIT-I**

**Criminology:** Definition, nature and scope, method of studying, importance and classification of crime.

**Criminal behaviour:**(a) Explanations. (b) Psychological theories, Alcoholism and Drugs.(c)Crime and social process: Economic Motivation, Socio-cultural Motivations, home and community influences, white collar crime, Female offender, juvenile Delinquency, influence of mass-media

**UNIT- II**

**Schools of Criminological Thought** (Factors in causation of criminal behaviour)

- i. Ancient School
  - (a) Demonological
  - (b) School of Free Will
- ii. Classical School.
- iii. Cartographic or ecological school.
- iv. Socialistic School
- v. Typological School
  - (a) Italian or positive school
  - (b) Mental Testers School
  - (c) Psychiativists School
- vi. Sociological School.
- vii. Multi factor School.

**UNIT- III**

**Control of Crime:** Police and Law courts, Prison system, Re-socialization of the offender, Rehabilitation of discharged prisoners in the administration of Criminal justice, prevention of crime delinquency.

**UNIT-IV**

**Punishment,** Relationship between Criminology and Penology; Theories of Punishment: Expiatory, Preventive and reformative and purposes of punishment.

Penal Science in India: History of Punishment, Pre-classical School, Neoclassical, Positive School. Reformers, Clinical School and multiple causation approach.

#### UNIT- V

**Miscellaneous:** modes of treatment of offenders, corporeal punishment, Transportation of criminals, Capital punishment, imprisonment, reactional treatment, parole, compensation, admonition, sex and adolescent offenders, indeterminate Sentences, Borstal School, Criminal procedural Jurisprudence. Constitutional Guarantees - Principles of natural Justice as applicable in procedural law, Protection to arrested persons. Under-trials, detinue and convicted persons. Double jeopardy, self-incrimination and right to life and legal aid.

#### Leading Cases:

1. Gura Singh v.State of Rajasthan, 1984 Cr. LJ 1423 (1428)
2. Francis Coralie Mullin v. Union Territory Delhi, AIR 1981 SC. 746.
3. R.K. Garg v.Union of India (1981) 133 ITR 239.
4. Mithu v.State of Punjab, AIR 1983 SC 473.

#### Select Bibliography:

1. Barnes, H.B. - Teeters - New Horizons in Criminology.
2. Vold, G.S. - Theoretical Criminology.
3. Pillai, K.S. - Criminology.
4. R. Taft, Donald - Criminology.
5. Edwin, H. Sutherland and Donald R. Grussey- Principles of Criminology
6. Horman Mannheim - Pioneers in Criminology.
7. Hon, Barren, Mays - Crime and the Social Structure.
8. Ahmed Siddiqui - Criminology - Problems & Perspectives
9. Lord Pakenham - Causes of Crime.
10. S.Venugopala Rao - Facts of Crime in India.
11. Korm, R.R. and Mc Gorble, LW - Criminology and Penology.
12. Grunhut - Penal Reforms.
13. Mandholm - Criminal Justice and Reconstruction.
14. Garden Rose - The Struggle for Penal reform.
15. I.L.I. - Essays on Indian Penal Code.
16. Ben - Penology - Old and New - Tagore Law Lectures.
17. Elliot - conflicting Penal Theories in Statutory in Criminal Law.
18. Shamshul Huda - Tagore Law Lectures on Criminal law.
19. Lawburse - Crime, Its causes and Remedies.
20. Dequires - Modern Theories of Criminology.
21. Gillin - Criminology and Penology.
22. Deccaria - Crime and Punishment.
23. N.V. Paranjape -अपराधशास्त्र एवं दण्ड प्रशासन

24. M.S. Chauhan -अपराधशास्त्र एवं अपराधिक विज्ञान सिद्धान्त
25. B.L. Babel -अपराधशास्त्र
26. The Criminal Procedure Code.
27. The Constitution of India.

### **PAPER - 3.6 (B) INTELLECTUAL PROPERTY LAW**

**Max. Marks: 100**

**Min. Pass Marks: 36**

#### **UNIT- I**

**Introductory :** The meaning of intellectual property, Competing rationales of the legal regimes for the protection of intellectual property, The main forms of intellectual property : copyright trademarks, patents, designs, The competing rationales for protection of rights in, Copyright, Trademarks, Patents, Design, Trade secrets, Other new forms such as plant varieties and geographical Indians, Introduction to the leading international instrument concerning intellectual property right : the Berne Convention, Universal Copyright Convention, the Paris Union TRIPS the World intellectual Property Right Organization (WIPO) and the UNESCO.

#### **UNIT - II**

**Copyright in India :** Historical evolution of the law, Meaning of copyright, Copyright in literary, dramatic and musical works, Copyright in sound records and cinematograph films, Copyright in computer programme, Ownership of copyright, Assignment of copyright, Author's special right, Notion of infringement, Criteria of infringement, Infringement of copyright by films of literary and dramatic works, Importation and infringement, Fair use provisions, Piracy in internet, Aspects of copyright justice, Remedies, especially, the possibility of Anton pillar injunctive relief in India.

#### **UNIT- III**

**Intellectual Property in Trademarks:** The rationale of protection of trademarks as (a) an aspect of commercial and (b) of consumer rights, Definition and concept of trademarks, Registration, Distinction between trademark and property mark, The doctrine of honest Current User, The doctrine of deceptive similarity, Protection of well-known marks, Passing off and infringement, Criteria of infringement, Standards of proof in passing off action, Remedies.

#### **UNIT- IV**

**Patents (A):** Concept of patent, Historical view of the patents law in India, Patentable inventions with special reference to biotechnology products entailing creation of new forms of life, Patent protection for computer programme, Process of obtaining a patent : application, examination, opposition and sealing of patents : general

introduction, Procedure for filing patents, patent co-operation treaty, Some grounds for opposition, The problems of limited locus standi to oppose, specially in relation to inventions having potential of ecological and mass disasters, Wrongfully obtaining the invention, Prior publication of anticipation, Obviousness and the lack of inventive step, Insufficient description.

#### UNIT- V

**Patents (B)** Rights and obligations of a patentee, Patents as chose in action, Duration of patents : law and policy considerations, Use and exercise rights, Right of secrecy, The notion of "abuse" of patent rights, Compulsory licenses, Special Categories, Employee invention : Law and Policy Consideration, International Patents, Transfer of Technology, Know-How and problems of self reliant development, Infringement

#### Leading Cases:

1. Manu Bhandari v. Kalankar Pictures Pvt. Ltd. AIR (1987) Del.13.
2. Nac Sahitya Prakash v. Anand Kumar, AIR 1981 All200 at P.203.
3. Brudaban Sahu v. Rajendra Subudhi, AIR 1986 Orrisa 210 at p.211.
4. R.G. Anand v. Messers Deluxe Films, AIR 1978 SC 1513 p. 1627.

#### Select Bibliography:

1. Designs and Patents Act, 1988.
2. International Copy right and Neighbouring Right - G.M. Stewart.
3. Indian Copy-right Act, 1957.
4. Borne Convention Implementation Act, 1988.

### PAPER - 3.6 (C) LAW OF MEDICINE

Max. Marks: 100

Min. Pass Marks:36

#### UNIT- I

**The Establishment of Identity of Individuals:** Branding, tattooing, Mutiating, Scars and Moles, Bantillon system: photography: fingerprints: ridge characteristics: Proscopy.

#### UNIT- II

**Injuries: (HURT) :** Definition in law (Sec. 319, 320 I.P.C.) Grievous Injury, Classification, Cardinal fractures of different types of injuries, Age of injuries.

**Burns & Scars:** Classification of burns (Depurants), Causes of death after burns, Simple and grievous burns, Area of the body surface in burns and its relationships, Ante-mortem and post-mortem burns.

#### UNIT- III

**Ashpyxia and Drowning:** Cause of asphyxia, post-mortem appearances, Various types of violent asphyxial deaths like hanging, Strangulation, throttling and traumatic asphyxia, and the post mortem appearances commonly seen in these conditions, Drowning - Cardinal post-mortem signs : Cadaveric aspm of hands, Signs

in the air passages, Stomach contents, Sign in the lungs, Demonstration of diatoms in the viscera.

#### UNIT-IV

**Sexual Offence: Rape:** Definition (Sec 375 I.P.C.), Examination of victim - Anatomy of hymen, Positive signs of rape, Examination of the accused, Medico legal aspects, Sodomy: Examination of the victim, Signs in the habitual passive agent, Examination of the accused,

Examination of Blood Stains: Physical, Chemical & Serological, Blood grouping its basic principles.

#### UNIT- V

**Autopsy:** Procedure - Aims & Objects - Difficulties, Problems, Times since death - Description of post-mortem changes, Estimation of time since death from rigor post-mortem staining, putrefaction, adipocere formation nummification changes in the eyes, skin, primary and secondary relaxation. In drowning cases from floatation of the body, In dead bodies after burial From the change in the degree of digestion of stomach contents, from the change of the cerebro spinal fluid and the narrow cells of the sternum, Cause and manner of a death, Ante mortem or post-mortem injuries, Examination of human remains skeletal and mutilated remains, Establishment of age, Sex and Stature for the purpose of identity, Infanticide, Definition dead born, still born viable foetus, criteria for separate existence, Exhumation : Rules and Procedure,

8. Poisons : Classification of poisons, Diagnosis of poisoning. Examination of poisoning case. Brief Toxicology of the following common poisons-Opium, Dhatura Barbivaratcs, Cannabis India, Arsenic, Copper Sulphate, Lead Stryehnine, Cocaine, Alcohol Organo Phosphours Compunds, Carbonmonoxide, Hytiocyanci Acid, Pot Cynide, Phosphorus, Snake bite.

#### Select Bibliography:

1. Parikh's Text Book of Medical Jurisprudence and Toxicology, by Dr. C.K. Parikh.
2. Medical Jurisprudence and Toxicology by Jai singh, S. Modi.
3. Forensic Chemistry and Scientific Criminal Investigation by Lucas A.
4. B.L.Babel- Medical Jurisprudence (Hindi)

#### Leading Cases :

1. Sada Shiv Mohan Chandra v.State of Kerala, AIR 1994 SC 565.
2. Keru Singh v.State of Rajasthan, 1994 Cr. Lj. 187 SC
3. Jose v.State of Kerala, 1994 SCC (Cr.) 1659
4. Miss Narayanamma v.State of Karnataka, 1994 SCC 573.
5. Hemchandra v.State of Haryana, AIR 1995 SC 120.

#### PAPER - 3.7 LAND LAWS

Max. Marks: 100

Min. Pass Marks: 36

## **UNIT-I**

### **THE RAJASTHAN TENANCY ACT, 1955**

Preliminary Objects and Reasons Definitions (S.5) : Agricultural year, Grove holder Grove Land, Improvement, Land, Tenant, Trespasser, Classes of Tenants, (S.14, 15, 17,17-a) Lands on which Khatedari Rights do not accrue (S. 16), Primary Rights of tenants (Ss. 31 to 37) Devolution of tenancies, Transfer of tenancies, Exchange of tenancies, Surrender. Abandonment and extinction of tenancies, improvement and trees (Ss. 38 to 87) Groveholders (Ss. 194 to 205)

## **UNIT-II**

Grounds for Ejectment of tenants and Remedies for Wrongful ejectment (Ss. 169 to 188), Provision for injunction and appointment of Receiver (S. 212), Procedure and Jurisdiction of Courts (Ss. 216 to 221), Appeal, Review, Revision, Reference (Ss. 222 to 232), Question of tenancy right in Civil Courts (S. 242) Conflict of Jurisdiction (S.243)

## **UNIT-III**

### **THE RAJASTHAN LAND REVENUE ACT, 1956**

The Board of Revenue (Ss. 4 to 14), Revenue Courts and Officers (Ss. 15 to 36), Appeal, Reference, Revision and Review (Ss. 74 to 87); Land : use of Agricultural Land for Non-Agricultural purposes (s. 90-A), unauthorised Occupation of Land (S.91), Allotment of Land for Agricultural purpose (S. 101), Survey and Record operations: General (Ss. 106 to 109) Boundary Marks (Ss. 110 to 111) Maps and Field Books (S. 112)

## **UNIT-IV**

Record of Rights (Ss. 113 to 121) Mutations (Ss. 122 to 137). Settlement operation: General (Ss.142 to 146), Economic Survey (S.148) Formation of Assessment Circles (S. 149), Soil classification (S.150), Evolution and Modification of rent rates, preparation of rent rate reports. its submission and finalisation (Ss. 151 to 167), Tenants option to refuse rent determined and its effect (Ss. 168 to 172), Preparation of Dastoor Ganwai (Ss. 173 to 174), Term of settlement (Ss. 175 to 177), Processes for Recovery of Revenue (S. 228), Writ of demand and citation to appear (Ss. 229 and 229-A), Attachment and Sale of movable property (S. 230), Attachment of the Land (Ss.231 to 233), Sale of defaulters specific Area, Path or estate (Ss. 235 to 253)

## **UNIT-V**

**The Rajasthan Rent Control Act, 2001** (Act No. 01 of 2003 as amended by Rajasthan Act No. 21 and 22 of 2005): Definition, Application Preliminary, Revision of Rent, Determination of rent, Tenancy- Limited period tenancy, eviction of tenants, rights of landlord, Restoration of possession of illegally evicted tenant and procedure thereof. Constitution of Tribunals, Jurisdiction, Appeal and Execution, Amenities and Miscellaneous provisions.

### **Selected Bibliography :**

1. S.K. Dutta- Rajasthan Tenancy Act, Rajasthan Land Revenue Act, Rent Control in Rajasthan.
2. Mathur & Mathur- Land Laws in Rajasthan.
3. Dr. G.S. Karkara- Land Laws in Rajasthan.

**Leading Cases :**

1. Ugam Raj v. Civil Judge(SD) Sojat City & ors. 2005(6) RRD 2180 (Raj.)
2. Heera Lal v. Rent Tribunal, Bikaner & ors. 2005(7) RRD 2648 (Raj.)
3. Nathu Singh v. Laxman Singh 1995 RRD 124
4. Panne Singh v. Guman Singh 1964 RRD 101
5. Shivshankar v. Murli Sri Bade Mathureshji 1996 RRD 316
6. Bhohra v. Ganesh 1996 RRD 71

**PAPER - 3.8 HUMAN RIGHTS LAW AND PRACTICE**

**Max. Marks: 100**

**Min. Pass Marks: 36**

**Unit- I**

**1. Human Rights : Concept**

- a. Human Rights Meaning and Nature
- b. Human rights in Indian tradition : ancient, medieval and modern
- c. Human rights in western tradition
- d. Development of natural rights
- e. Human Rights in international law and national law

**Unit- II**

2. Classification of Human Rights – First, Second and Third Generations : Historical Development

**Unit- III**

**3. Human Rights Under International Law**

- a. Universal Declaration of Human Rights (1948)
- b. Covenant of Political and Civil Rights (1966)
- c. Covenant of Economic, Social and Cultural Rights (1966)

**Unit- IV**

**4. Role of Regional Organizations**

- a. European Convention of Human Rights
- b. American Convention on Human Rights
- c. African Convention of Human Rights

**Unit- V**

**5. Enforcement of Human Rights in Indian Perspective**

- a. Role of Supreme Court
- b. Role of High Courts
- c. Role of National Human Rights Commission

d. Role of State Human Rights Commissions

**Select Bibliography**

D.D.Basu, Human Rights in Indian Constitutional Law, (1994).

Vijay Chitnis,(et.al.). Human Rights and the Law. National and Global Perspectives, (1997).

B.P.Singh Seghal, Law, Judiciary and Justice in India, (1993).

James Vadakkumchery, Human Rights and the Politics in India, (1996).

D.R.Saxena, Tribals and the Law, (1997).

Poornima Advani, Indian Judiciary: A Tribute, (1997).

Justice Venkataramiah, Human Rights in the Changing World, (1998)

Paramjit S.Jaiswal and Neshtha Jaiswal, Human Rights and the Law, (1996).

**PAPER - 3.9 ARBITRATION, CONCILIATION AND ALTERNATIVE DISPUTES  
RESOLUTION SYSTEMS**

(A) Written Paper: 80 marks

Min. Pass Marks : 29

(B) Practical Paper: 20 marks

Min. Pass Marks : 07

The Practical examination shall be conducted by a committee of 2 examiners. In this committee there shall be one internal and one external examiner.

(A)Written Paper

**UNIT-I**

Arbitration and Conciliation Act, 1996: General provisions: Arbitration agreement; Arbitral Tribunal: Composition and Jurisdiction; Conduct of Arbitral Proceeding.

**UNIT-II**

Arbitral awards: Termination of proceedings, setting aside the Arbitral award; Enforcement of Arbitral awards, Appeals; Code of ethics for Arbitrators.

**UNIT-III**

Enforcement of Foreign-awards; Geneva Convention International arbitration institutions  
Conciliation : conciliators, appointment of conciliators, relationship of conciliators with the parties, settlement agreement status and effect of settlement agreements. Terminations of conciliation proceedings, resort to judicial proceedings, cost and deposits.

**UNIT-IV**

**Alternative dispute & resolution system:** Objects and role of committee for implementation of legal aid schemes (CILAS). The Legalservices authorities act, 1987 (as amended by the act of 2002)- The national legal service authority, State legal service authority and District legal service authority- constitution and functions;

**Lok Adalat-** Organisation, cognizance of cases, award and powers. Permanent Lok Adalat-establishment, cognizance of cases, procedure and award. Study of other alternative dispute resolution system in brief such as Nyay Panchayat and Family courts.

**Leading Cases:**

1. Sundaram Finance Ltd. v.NIPC India Ltd. (1999) 2 SCC 479
2. NMTC Ltd. v.Sterlite Industries Ltd. 1996(4) SCC 219
3. Lotus Investment and Securities v.Pramod S. Tiberwal 1996(2) SCC 579
4. State of Rajasthan v.Bharat Construction Co. 1998 (4) CCs172 (Raj.)

**Selected Bibliography:**

1. G.C. Mathur, Arbitration and Conciliation Act, 1996.
2. S. Krishnamurthy: Law of Arbitration and Conciliation.
3. P.M.Bakshi: Arbitration Law.
4. O.P. Tiwari: The Arbitration and Conciliation Act, 1996
5. Avtar Singh: Law of Arbitration and Conciliation.

**PRACTICAL PAPER : 3.10**

**DRAFTING, PLEADING, CONVEYANCING  
AND MOOT COURT TRIAL**

This paper will consist of following two parts –

(A) **Written Paper:80 marks**

**Min. Pass Marks: 29**

(B) **Practical Paper: 20 marks**

**Min. Pass Marks: 07**

The Practical examination shall be conducted by a committee of 2 examiners.In this committee there shall be one internal and one external examiner.

**(A)Written Paper**

**UNIT- I**

Pleading: Meaning, Kinds; Fundamental principles of pleading and their exceptions,amendment of pleadings, alternate and inconsistent pleadings Doctrine of set-off:Legal set-off and equitable set-off

**UNIT- II**

Drafting of pleadings Civil: Plaints, written statement, Original Petition, Affidavit,Notice, Execution Petitions, Memorandum of Appeal, Execution of Writ Petition. and Judgement writing

**UNIT- III**

Criminal complaints, Bail Application, Accusi Reply, criminal Miscellaneous Petition, Appeal, Reference and Revision.

**UNIT- IV**

Conveyancing: Meaning, General Rules of Conveyancing, Salient parts ofconveyancing, rules relating to their drafting

Drafting of Deeds: Partnership deed, mortgage by conditional sale, notice for eviction, writing of government contract, sale deed, Mortgage Deed, Gift Deed, Lease Deed, Rent Deed, Power of Attorney, Provisory Note and will .

**(B) Practical Paper:**

- (1) **Pre-trial Preparation :** Each student will observe two interviewing session of clients at the advocate office / legal office and record the proceedings in a diary.
- (2) **Participation in Trial Proceedings :** Each student will attend two trials during the session and maintain a record and enter the various steps observed during in a diary.
- (3) **Moot Court :** Each student will participate in two Moot courts
- (4) **Viva-voce:** The Viva-voce examination shall be conducted by a committee of two persons. In this committee there shall be one Internal and one External Examiner. The committee shall award marks on the basis of Court diary, performance at the Moot court and Viva-voce Examination.

The division of marks will be as under:

- |                                      |          |
|--------------------------------------|----------|
| (1) Record maintained by the student | 5 marks  |
| (2) Participation in Moot court      | 5 marks  |
| (c) Viva-voce                        | 10 marks |

**MAHARAJA GANGA SINGH UNIVERSITY, BIKANER**

# **SYLLABUS**

**SCHEME OF EXAMINATION  
AND  
COURSES OF STUDY**

**FACULTY OF LAW  
P.G. DIPLOMA**



**P.G. ONE YEAR DIPLOMA COURSE IN LABOUR LAW,  
LABOUR WELFARE AND PERSONNEL MANAGEMENT-2022**

**P.G. ONE YEAR DIPLOMA COURSE IN CRIMINOLOGY  
AND CRIMINAL ADMINISTRATION -2022**

**P.G. ONE YEAR DIPLOMA COURSE IN TAXATION LAWS & PRACTICE -2022**

**P.G. ONE YEAR DIPLOMA COURSE IN LEGAL AND FORENSIC SCIENCE-2022**

**P.G. ONE YEAR Diploma in Human Rights-2022**

**P.G. ONE YEAR Diploma in Insurance Law and Management-2022**

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**P.G. ONE YEAR DIPLOMA COURSE IN LABOUR LAW,  
LABOUR WELFARE AND PERSONNEL MANAGEMENT**

**Scheme of Examination:**

R. 21 B - For the diploma course in Labour Law, Labour welfare and personnel Management, candidates must obtain for a pass at least 40% marks in individual papers and 48% in the total aggregate of the successful candidates. Those securing 60% or more marks in the aggregate shall be placed in the first division and rest in the second division.

**Each paper shall carry 100 Marks. A candidate may offer dissertation in lieu of a paper, the dissertation shall be of 100 Marks. It shall be submitted in triplicate by the candidate. It shall be the candidate's own work carried out under the guidance of a teacher who is recognized by the university to guide research of law in an institution, where candidate is pursuing his studies. The dissertation shall be submitted so as to reach the registrar not later than 30 days after the examination of Diploma is over.**

**SYLLABUS**

**PAPER I**

**INDUSTRIAL RELATIONS AND THE LAW**

**Max. Marks 100**

**Min. Marks 40**

- Industrial Relations – Genesis, Concept and Emerging Patterns.
- Parties to Industrial Relations - Trade Union Management - the state and their interactions.
- Trade Unions - Concept, Growth and Structure with special reference to India, U.K., U.S.A. and Russia
- Position of Trade Union in India - Multiplicity of Trade Unions, Recognition of Trade Union, Trade Union movements, Central Trade Union. Organizations, Role and functions, Role of Trade Union in Modern Industrial Society of India. Trade Union Rivalry and Unfair Labour Practices.
- Collective Bargaining in India - Meaning, Nature, scope.
- Workers Participation in Management - Indian and Foreign experience.
- Industrial Relation - Legislative and Judicial Perspectives.
- a. The Indian Trade Union Act, 1926.
- b. Industrial Disputes Act, 1948.
- c. Industrial Employment (Standing Order) Act, 1946.

**Leading Cases:**

1. R.S. Ruikar v. Emperor A.I.R. 1935 Nag. 149.
2. Jay Engineering Work Ltd. V. State of West Bengal A.I.R. 1968 Cal. 406.
3. Rohtas Industries v. Its. Union A.I.R. 1967 S.C. 425.
4. L.I.C. of India v. D.T. Bahadur 1981 I L.L.J. I (S.C.)
5. Balmer Lawrie Workers Union Bombay v. Balmer Lawrie & Co. Ltd. 1984 I. L.L. J. 314 (S.C.)
6. R.A. Sharma & Others v. Union of India. 1985 II L.L. J. 187 (S.C.)

**N.B :-** The students will be imparted teaching of latest case Law of the Supreme Court and various High Courts along with the legislatives changes and amendments from time to time.

**Books Recommended :**

1. Laski H. : Trade Union in the New Society.
2. Myres C. : Industrial Relations in India.
3. Apslev V. Whitmore : Industrial Relations, Hand Book.
4. John T. Dulop : Industrial Relations System.
5. J. Henry Richardson : An Introduction of the Study of Industrial Relations.
6. V.V. Giri : Labour Problems in Indian Industry.
7. S.N. Dhyani : Trade Unions and Right to strike
8. O.P. Malhotra : Law of Industrial Disputes - Vol. I.

9. Report of National Commission on Labour.
10. A.V. Raman Rao : Collective Bargaining v. Govt. Regulation.
11. G. Srivastava : Collective Bargaining v. Labour managements Relations in India.
12. C.P. Thakur : Industrial Democracy - Same Issue and Experience.
13. Mamoria & Mamoria : Industrial Labour, Social Security and Industrial Peace in India.
14. S.N. Mishra : An Introduction of Labour and Industrial Law.
15. The Indian Labour Year Book.
16. S.N. Dhyani : Crisis in Indian Industrial Relations.
17. I.L.O.: Conciliation and arbitration in Industrial Disputes.
18. I.L.O. : Freedom of associations USA, UK, USSR.
19. The Industrial Trade Unions Act,1926.
20. Industrial Employment (standing Orders) Act, 1946.
21. Dr. G.S. Sharma: Labour Law (Hindi)

## PAPER II

### LABOUR WELFARE LEGISLATIONS AND INDUSTRIAL SOCIOLOGY AND LABOUR WELFARE, CONCEPT AND PHILOSOPHY OF LABOUR WELFARE

**Max. Marks 100**

**Min. Marks 40**

Theories of Labour welfare, Role of Labour Welfare: Officers, Role of Trade Unions Employers and the State in Labour Welfare, Labour Welfare and Environment Pollution. Labour Welfare in India Legislative and Judicial Perspectives.

- a. The Factories Act, 1948.
- b. The Mines Act, 1952.
- c. Employment of Children Act, 1938.
- d. Contract Labour (Regulation and Abolition) 1970.
- e. Inter-State Migrant workmen (Regulation of Employment and Conditions of Service) Act. 1979.

Industrial Sociology: Meaning, Scope and Development, Industrialisation and Social Change and Social Problems of Industrial Relations.

#### **Leading Cases :**

1. Alembic Chemical Works v. Its workman, A.I.R. 1961, S.C. 647.
2. V.P. Gopala Rao. v. Public Prosecutor A. P. A. I. R. 1970 S. C. 66.
3. Labour working in Salal Hydel Project v. State J.K. A. I. R.1983 S. C. 177.
4. Rural Litigation and Entitlement Kendra Dehradun v. State of U. P. A. I. R. 1985 S.C. 652.
5. Workmen of F.C. I. v F. C. I. A. I. R. 1985 S. C. 670.
6. Mukesh Advani v. State of M. P. 1985 Vol XVIII A.I.R.S.R.309.

**N.B.** The Students will be imparted teaching of latest case-law of the Supreme Court and the High Courts alongwith the Legislative Changes and amendments from time to time.

#### **Books Recommended :**

1. K.N. Vaid : Labour Welfare in India.
2. M.V. Moorty : Principles of Labour Welfare.
3. Government of India : Report of the Committee on Labour Welfare, 1970.
4. Govt. of India : Report of National Commission on Labour.
5. The Indian Factories Act. 1948.
6. The Indian Mines Act. 1952.
7. Employment of Children Act, 1938.
8. Contract Labour (regulation & Abolition) Act, 1970.
9. Bonded Labour (Abolition) Act, 1976.
10. Equal Remueration Act, 1976.
11. Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.
12. Miller and From : Industrial Sociology.

13. Eugene V. Schaeider : Industrial Sociology.
14. B. Kuppaswami : Social Changes in India.
15. S. C. Kuchhal : Industrial Economy of India.
16. Mamoria and Mamoria : Industrial Labour, social Security and industrial Peace in India.
17. S.N. Mishra : An Introduction to Labour and Industrial Laws.
18. The Indian Labour Year Book.

### PAPER III

#### WAGES AND SOCIAL SECURITY LEGISLATION

**Max. Marks 100**

**Min. Marks 40**

- Genesis of West Regulation.
- Concepts of Minimum Fair, Living and Needbased Minimum Wages: Methods of Wage fixation, Wages Differentials Working of Wage Board. Standardization of Wages. Factors in Wage Determination. Dearness Allowance and Fringe Benefits, National Wage Policy- Protection of Wages.
- Development of the concept of Bonus, issues and Perspectives. concepts of Profit-sharing.
- Meaning of Special Security, Social-Assistance and Social Insurance, Social Security and Social Justice and main characteristics of Social Security system.
- Meaning and Concept of Gratuity and Provident Fund.

**Legislation :**

- a. Minimum Wages Act, 1948.
- b. Payment of Wage Act, 1936.
- c. Payment of Bonus Act, 1965.
- d. Equal Remuneration Act, 1976.
- e. Workmen Compensation Act, 1923.
- f. Employees State Insurance Act, 1948.
- g. Employee Provident Fund Act, 1953.
- h. Maternity Benefit Act, 1961.
- i. Payment of Gratuity Act, 1972.

**Leading Cases:**

1. Express Newspaper Ltd. & others v. Union of India & others. A. I. R. 1958 S. C. 578.
  2. B. E. S. T. Undertaking Bombay v. Mrs. Agens A. I. R. 1964 S. C. 193.
  3. Royal Talkies Hyderabad v. E.S.I. Corporation A. I. R. 1978 S. C. 19.
  4. Air India v. Nargesh Meerza, A. I. R. 1981 S. C. 1830.
  5. D. S. Nakara v. Union of India A. I. R. 1983 S. C. 130.
  6. Saya Mills Ltd, v. Regional P. F. Commissioner. 1985 I.L.L.J. 238 (S. C.)
- N.B.** The Students will be imparted teaching of latest case-Law of the Supreme Court of India and the various High Courts alongwith the Legislative changes and amendments from time to time.

**Books Recommended:**

1. I. L. O: Approaches to Social Security.
2. G. C. Hallen : Dynamics of Social Security in India.
3. K. N. Subramaniam : Wages in India.
4. S. B. L. Nigam : State Regulation of Minimum Wages.
5. I. L. O. : An Introduction to Social Security.
6. The Workmen Compensation Act, 1923.
7. The Payment of Wages Act, 1936.
8. The Minimum Wages Act, 1948.
9. The E. S. I. Act, 1948.
10. The E. P. F Act, 1952.
11. Maternity Benefit Act, 1961.
12. Payment of Bonus Act, 1965.
13. Payment of Gratuity Act, 1972.
14. Govt. of India: Report of National Commission on Labour.

15. V. V. Giri: Labour Problems in Indian Industry.
16. Mamoria and Mamoria: Industrial Labour, Social Security and Industrial Peace in India.
17. S. N. Mishra : An Introduction to Labour and Industrial Laws.
18. The Indian Labour Year Books.
19. G. L. Kothari : Wages, Dearness Allowance and Bonus.
20. Dr. G.S. Sharma : Labour Law (Shram Vidhi)

#### **PAPER IV**

#### **PERSONNEL MANAGEMENT AND INDUSTRIAL PSYCHOLOGY**

**Max. Marks 100**

**Min. Marks 40**

N.B. The question paper shall be divided into two parts i.e. Part I and II. The paper shall contain eight questions from Part I and two questions from part II. The Students shall be required to attempt at least one question from Part II.

#### **PART I- PERSONNEL MANAGEMENT**

- Concept of Personnel Management and Personnel Policies.
- Man Power Planning, Recruitment, Selection, Training and Job Placement including Worker's Education as envisaged by the Central Board of Worker's Education.
- Job Analysis and Evolution and Performance Appraisal.
- Management of discipline, Domestic Enquiry and Grievance Procedure.
- Role and Functions of Personnel manager.
- Scientific and Technical Advances Vis-a-Vis Personnel Management.

#### **PART II- INDUSTRIAL PSYCHOLOGY**

- Industrial Psychology- Nature, Scope and Functions.
- Motivation and Mural, Leadership Styles & Dynamics.
- Psychology of Attitudes. Hawthorne Experiments and their relevance in India.
- Individual Behaviour in formal and Informal Groups. Interpersonal and Inter-group relationship in organization and their Impact on Organization.

#### **Leading Cases:-**

1. North Brook Jute Co. Ltd. v. Their Workman A. I. R. 1960.
2. Monogram Mills Ltd. v. State of Gujarat 1976 II L.L.J. 174 (S.C.)
3. Workman of Williamson Magor & Co. Ltd. v. williamson Magor & Co. Ltd. 1982. L.L.J. 83 (S.C.)
4. State of Orissa v. Ram Prashad. 1985 II L.L.J. 204 (S.C.)
5. N. M. Rubber Co. Ltd. Madras v. I. S. Natrajan, 1985 II L.L.J. 364 (Madras H.C.)
6. Union of India v. Tulsi Ram Patel A. I. R. 1958 S. C. 1416.

**N.B** The Students will be imparted teachings of latest case-Laws of the Supreme Court of India and various High Court along with the Legislative changes and amendments from time to time.

#### **Books Recommended:**

1. I. L. O. : International Labour Codes. Vol. I & II
2. S.N. Dhyani : I. L. O. and India : In Pursuit of Social Justice .
3. G. A. Johnson : The I. L. O.
4. Davil Miller : Social Justice.
5. Kamla Mathur & N. R. Seth : Tripartitism in Labour Policy. Indian Labour Year Book.
6. S. K. Agarwal : K. M. Munshi Lectures on Public Interest Legislation in India.
7. Govt. of India : Report of National Comission on Labour.
8. C. K. Johari : Indian Tripartite System.
9. S. R. Samant : Industrial Jurisprudence.
10. Indian Constitution : Relevant Portions.
11. Govt. of India : Tripartite Consulations.
12. R. G. Chaturvedi : National and Social Justice.

13. Mahesh Chandra : Industrial Jurisprudence.
14. Rideout : Principles of Labour Law.
15. N. Vaidyanathan : International Labour Standards.

#### **PAPER V**

#### **LABOUR JURISPRUDENCE AND THE I.L.O.**

**Max. Marks 100**

**Min. Marks 40**

- Concept and Growth of Labour Jurisprudence.
- Concept of Social Justice, Natural Justice and the Labour.
- Constitution of India, 1950. and the Labour.
- Labour and Judicial Process and Public Interest Legislation.
- Tripartism : Voluntarism in Labour Relations and Code of Discipline in Industry.
- I. L. O. - Genesis, Aims and Objectives, Constitutions.
- I. L. O. - Conventions and Recommendation : Procedure for Ratify
- I. L. O. Conventions and Recommendations and Problems in their Rectification.
- I. L. O. & Regional Conferences.
- International Labour Standards and Labour Legislations in India.
- I. L. O. Problems and Prospects.
- ILO and Human Rights in India, Perspectives.

**Leading Cases:-**

1. Som Prakash v. Union of India. A. I. R. 1981 S. C. 212.
2. Bandhua Mukti Morcha Vs. Union of India A. I. R. 1984 S. C. 802.
3. People Union for Democratic Rights & others. v. Union of India. 1982 II L. L. J. 454 (S.C.)
4. National Textiles Workers Union v. Ram Krishna A. I. R. 1983 S. C. 759.
5. Excel Wear v. Union of India 1978, L. C. J. 527 (S.C.)
6. The Delhi Cloth & General Mills Ltd. v. Sambhunath Mukerjee. 1935 I. L. J. 36 (S.C.)

**N.B.** The students will be imparted teachings of latest case-laws of the Supreme Court of India and Various High Court along with the Legislative changes and Amendment from time to time.

**Books Recommended -**

1. I. L. O. International labour Codes Vol. I & II
2. S. N. Dhyani : I. L. O. and India : In pursuit of Social Justice.
3. G. A. Johnston : The I. L. O.
4. David Miller : Social Justice.
5. Kamal Mathur and N. R. Seth : Tripartitism in Labour Policy
6. Indian Labour Yearbook
7. S. K. Agrawal : K. N. Mushi Lecures on Public Interest Litigation in India.
8. Govt. of India : Report of National Commission of Labour.
9. G. K. Johri : Indian Tripartite System.
10. S. R. Samant : Industrial Jurisprudence.
11. Indian Constitution : Relevant Portions.
12. Govt. of India : Tripartite Consultations.
13. R. G. Chaturvedi : Natural and Social Justice.
14. Mahesh Chandra : Industrial Jurisprudence.
15. Ridoout : Principles of Labour Law.
16. N. Vaidyanathan : International Labour Standards.

#### **PAPER VI**

#### **LABOUR ECONOMICS AND LABOUR STATISTICS AND ORGANIZED AND UN-ORGANIZED LABOUR ORGANISATIONS**

**Max. Marks 100**

**Min. Marks 40**

- Labour Force in Organized and Unorganized Sectors-Sources. Composition, Characteristics etc.
- Employment, Un-employment and Under-employment-conceptual and Development Aspects.

- Labour Turn over and Absenteeism.
- Unemployment Guarantee Scheme.
- Unorganized Labour- Magnitude. Problems and Public Policy on Unorganized Labour.
- Integrated Rural Development Programmes and Labour.
- Labour in Five- Year Plans- A Brief Study.
- Industrial Policy Resolutions and Development in Private and Public Sector.
- Industrial development- Heavy, Large, Small-scale and Cottage Industry.
- Location, Finance, Planning and Problems.

**Labour Statistics:**

- a. Meaning Objects and Structure.
- b. Growth of Labour Statistics in India.
- c. Indian Labour Statistics Act, 1953.
- d. Labour Statistics relating to Disputes, Wages, Strikes.
- e. Lockouts, Man days, Labour Safety, Health and Welfare Cost of Living etc.

**Books Recommended:**

1. A. N. Agrawala : Indian Economy- Problems of Development & Planning.
2. Rudra Dutt & Sundradum : Indian Economy.
3. S. C. Kuchhal : The Industrial Economy of India.
4. D. P. Sharma and Desai : The Rural Economy of India.
5. A. R. Desai : The Rural Sociology of India.
6. L. G. Reynalds : Labour Economics.
7. R. Mukerjee : Labour Planning.
8. B. N. Datar : Labour Economics.
9. J. N. Mongia : Readings in Indian Labour.
10. Goernment of India : Report of National Commission of Labour.
11. J. L. Dholakia : Industrial Labour and Economics Development in India.
12. D. N. Elhance : Economics Statistics of India since Independence  
(First Three chapters of Part I and Chapter 15 of Part IV) of Relevant Portion.
13. B. N. Asthana : Applied Statistics of India.
14. S. S. Srivastava : (Chapter 5 and 6) or Relevant Portion.
15. Mamoria & Mamoria : Industrial Labour, Social Security and Industrial Peace in India.
16. I.L. O. : Structure and Functions of Rural Worker's Organisation.

**P.G. ONE YEAR DIPLOMA COURSE IN CRIMINOLOGY AND CRIMINAL  
ADMINISTRATION**

**SCHEME OF EXAMINATION**

21C. For the Diploma Course in Criminology and Criminal Administration candidates must obtain for a pass at least 40% marks in the individual paper and 48% in the aggregate. Of the successful candidate those securing 60% of more marks in the aggregate shall be placed in First Division and the rest in Second Division.

**Each paper shall carry 100 Marks. A candidate may offer dissertation in Lieu of a paper, the dissertation shall be of 100 marks. It shall be submitted in triplicate by the candidate. It shall be the candidate's own work carried out under the guidance of a teacher who is recognized by the university to guide research of law in an institution, where candidate is pursuing his studies. The dissertation shall be submitted so as to reach the registrar not later than 30 days after the examination of Diploma is over.**

**SYLLABUS**

**PAPER I**

**GENERAL PRINCIPLES OF CRIMINAL LAW**

**Max. Marks 100**

**Min. Marks 40**

Under the Indian Penal Code (excluding specific offences) and the Fundamental basis of statutory offences under the Prevention of Food Adulteration Act and Arms Act. Suppression of Immoral Traffic Act and Prevention of Corruption Act.

**PAPER II  
CRIMINOLOGY**

**Max. Marks 100**

**Min. Marks 40**

1. Meaning and Scope of Criminology.
2. Schools of Criminology.
3. Contribution of Sutherland.
4. Juvenile delinquency.
5. Recidivism.
6. Causes of Crime.
7. Social Forces and Crime.
8. Recent Trends in Crime including the problems of organised crime, black-marketing corporate crimes, hidden-crimes and effects of crime.
9. Types of criminals.
10. Study of Criminal Behaviour of some tribes in India.

**PAPER III  
PENOLOGY**

**Max. Marks 100**

**Min. Marks 40**

1. Origin and evolution of Punishment
2. Forms of punishment with special reference to capital punishment.
3. Penal institutions. Prison system and its reforms in India with special reference to recent experiments.
4. Correctional Institutions: Work houses and houses of correction Juvenile training school/ Men's and women's reformatories: Borstal Institutions in India.
5. Parole & Indeterminate sentence.
6. Pardon.

**Books Recommended on Criminology and Penology :**

1. Sutherland : Principles of Criminology (Latest Edition).
2. Garofolo : Criminology Part I, II and III (Latest Edition).
3. Gillin : Criminology and Penology Part I to Part V (Latest Edition).
4. Taft : Criminology (Latest Edition) Part 1- Ch. 3 for study. Part II- Omitting Ch. 6 Rest of Study Part III & IV. Full for study.
5. Pillai: Principles of Criminology lectures 2, 3, 4, 5, 6, 9,11 and 12.
6. Cavan : Criminology Part I - Omitting Ch. 2 Part II- Full.
7. Lombroso Cesare : Crime, its Cause and Remedies.
8. Different Reports: Published Governments of India from time to time.
9. Radzinowicz and Turner- Moral Approaches to Criminal Law.
10. Barnes and Tetter - New Horizons in Criminology.
11. Pioneers in Criminology edited Mannbein.
12. Bonger- Criminology.
13. P. K. Sen- From Punishment to Prevention.
14. P. K. Sen- Penology - Old and New.
15. Oppenheimer - Rationale of Punishment.
16. Crime, Courts and Probation.
17. Siddique M- Criminology.

**PAPER IV**

**FORENSIC SCIENCE AND CRIMINAL INVESTIGATION– THE ROLE OF FORENSIC  
SCIENCE IN CRIMINAL AND CIVIL CASES**

**Max. Marks 100**

**Min. Marks 40**

The basic question in investigation- Qui Bono; the science of

Crime: discovery of traces of physical evidence, classification and reference to classified record; systematization and classification of physical evidence and comparison with suspected material; the principles of exchange; the principles of heredity, Taxonomy etc.

- a. The Establishment of Identity of Individuals. Branding, tattooing, Mutilating, Scars and Moles, Bantillon system: photography : fingerprints : ridge characteristics: Proscopy.
- b. The Establishment of Partial Identity of Individuals; Footprints: Hair skin: blood grouping : physical peculiarities.
- c. The Establishment of the Identity of Physical Objects by Shape and Size Identifying marks and impressions made by the physical objects :shoe prints tyre and trade markers: die and tool marks rupture of fracture marks.
- d. The Establishment of the Identity of Physical objects by Physical and Chemical Analysis Prints: Coloured objects: Metals Alloys: Chain & the Earthen Wares: Cements: Plaster Bricks Dust: Soil: Minerals: Plastics.
- e. Questioned Documents and the Identification of Handwritings: Paper, Its types and identification: links: pencils and writings tools, handwriting habit & flow, disguised writing comparison and Points of identity: samples: various type of forgery and their detection: Additions, Erasures: Alterations: Scales; Rubber Stamps: Type Writing: Printings Blocks.
- f. The Identification of Fire-Arms and Cartridges and Related Problems Types of Fire-arms and their use; time and range of firing; identification of a fire-arm with a cartridges case and bullet; miscellaneous fire-arm, problems like origin or direction of fire.
- g. Injuries to Persons: Evidentiary value of details of injuries, traces left by the weapon used; its range and direction; danger to clothing worn by the victim and related problems; the flow of blood from injuries; the shape and directions of blood drops and their evidentiary value, the discovery of blood and semen stains on various objects; accidental deaths and suicides.
- h. Miscellaneous Forensic Science Methods: Restoration of numbers: examination of the walking picture of footprints; clothing; copper wire, piece of wood etc.
- i. Evidentiary value of Physical Evidences by a Forensic Science Laboratory viz. Evidence: Fallibility of eye witnesses. The probative value of such evidence. Findings of scientific methods of investigation; their probative value. Assessment of value from actual cases. Value to be assigned to the different types of exhibits.

#### **PAPER V**

#### **FORENSIC MEDICINE AND TOXICOLOGY.**

**Max. Marks 100**

**Min. Marks 40**

**1. INJURIES : (HURT)-**

- a. Definition in law : Simple and hurt grievous hurt (SS. 319 and 320 IPC)
- b. Classification.
- c. Cardinal fractures of different types of injuries.
- d. Age of injuries.

**2. BURNS & SCARS.**

- a. Classification of burns (Depurants).
- b. Causes of death after burns.
- c. Simple and grievous burns.
- d. Area of the body surface in burns and its relationships.
- e. Ante-mortem and post-mortem burns.

**3. ASHPYXIA AND DROWING**

- a. Cause of asphyxia, post-mortem appearances.
- b. Various types of violent asphyxia deaths like hanging. Strangulation, throttling and traumatic asphyxia, and the post mortem appearances commonly seen in these conditions.
- c. Drowning- Cardinal post-mortem signs.
  - i. Cadaveric apasm of hands.
  - ii. Signs in the air passages.

- iii. Stomach contents.
  - iv. Signs in the lungs.
  - v. Demonstration of diatoms in the viscera.
- 4. SEXUAL OFFENCE:**
- a. Rape :
    - i. Definition (See 375 I. P. C.)
    - ii. Examination of victim- Anatomy of hymen.
    - iii. Positive signs of rape.
    - iv. Examination of the accused.
    - v. Medico-legal aspects.
  - b. Sodomy:
    - i. Examination of the victim.
    - ii. Signs in the habitual passive agent.
    - iii. Examination of the accused.
- 5. AUTOPSY:**
- a. Procedure- Aims & Objects- Difficulties.
  - b. Problems:
    - i. Time since death- Description of post-mortem changes. Estimation of time since death from rigor post-mortem staining, putrefaction, adipocere formation nummification changes in the eyes, skin, primary and secondary relaxation. In drowning cases from floatation of the body. In dead bodies after burial. From the degree of digestion of stomach contents. From the change in the cerebro spinal fluid and the narrow cells of the sternum.
    - ii. Cause and manner of a death.
    - iii. Ante mortem or post-mortem injuries.
    - iv. Examination of human remains skeletal and mutilated remains. Establishment of age, Sex and Stature for the purpose of identity.
  - c. Infanticide : Definition dead born, still-born viable foetus, criteria for separate existence.
  - d. Exhumation : Rules and Procedure.
- 6. EXAMINATION OF BLOOD STAINS**  
Physical, Chemical & Serological. Blood grouping and its basic principles.
- 7. INSANITY:**  
Definition (See 84 IPC)  
Concept - classification- Legal test of insanity. Observation of an alleged lunatic- Restraint of the insane. Civil and criminal responsibility of a lunatic. Testamentary capacity, Reception order on petition.
- 8. POISONS :**  
Classification of poisons. Diagnosis of poisoning. Examination of poisoning case. Brief Toxicology of the following common poisons- Opium. Dhatura barbivariates. Cannabis India. Arsenic Copper Sulphate, Lead. Strychnine, Cocaine, Alcohol. Organo Phosphorus Compounds. Carbonmonoxide, Hydrocyanic Acid, Pot, Cyanide, Phosphorus, Snake bite.
- 9. INTOXICATION:**  
Definition (See 85 & I.P.C.) regarding alcoholic intoxication. Alcohol, ganja, bhang, dhatura, opium, morphine.

**BOOKS RECOMMENDED FOR PAPER IV AND V**

1. Modern Criminal Investigation: Harry Soderman and John J. O'Connell (Published by Funk & Wagnalls Co. Inc. New York).
2. Criminal Investigation : Paul L. Kirk, Ph. D. (Published by Inter Science Publishers, Inc. New York)
3. Criminal Investigation : Cr. A and cross. (Published by Sweet & Maxwell. Limited London).
4. Police Act (Act V of 1861).

5. Rajasthan habitual Offender Act.
6. Rajasthan Police Regulation (for Reference Purpose only).
7. Downen, T. A. : Text Book of Forensic Pharmacy:
8. Gour, A. N. Fire Arms, Forensic Ballistics. Forensic Chemistry and Criminal Jurisprudence.
9. Lucas A: Forensic Chemistry and Scientific Criminal Investigation.
10. Lundquist F: Methods of Forensic Science (Vol I).
11. Moreland N: Science in Crime detection illustrated.
12. Swipson F. Forensic Medicine.
13. Modi, J. P: Medical Jurisprudence and toxicology.\

### **PAPER VI**

#### **ELEMENTS OF CRIMINAL PROCEDURE AND PROOF IN CRIMINAL TRIALS**

**Max. Marks 100**

**Min. Marks 40**

**The Criminal Procedure Code:**

General including classification of Criminal cases- Summary- Warrant-bailable-Non Bailable, Cognisable, Non-Cognisable, Constitution and Jurisdiction of Courts : Complaint & F. I. R. case : Investigation Procedure : Framing of Charges : Trial Procedure; Security for Keeping Peace.

**The Indian Evidence Act : Sections**

- |       |                      |   |               |
|-------|----------------------|---|---------------|
| i.    | Burden of Proof      | - | 101-106       |
| ii.   | Confession           | - | 24-30         |
| iii.  | Presumption          | - | 114           |
| iv.   | Accomplice           | - | 133           |
| v.    | Relevancy            | - | 5, 11, 14, 15 |
| vi.   | Character Evidence   | - | 52-55         |
| vii.  | Expert Witnesses     | - | 45, 46, 51    |
| viii. | Examination in Chief | - | 145, 153      |
- & Cross Examination

**BOOKS RECOMMENDED FOR PAPER VI**

1. Ratan Lal : Criminal Procedure Code
2. Ganguly, A.C. : A Guide to Criminal Code Practice
3. Tiwari Y.K. - Cr.P.C. (Hindi)
4. Jain P.C. - Cr.P.C. (Hindi)
5. M.D. Chaturvedi - Cr.P.C. (Hindi)
6. Ratan Lal - The Law of Evidence
7. Batuk Lal - Law of Evidence
8. Vepa P. Sarathi - Law of Evidence
9. Raja Ram Yadav - Law of Evidence (Hindi)
10. Shyam Sunder Sharma - Law of Evidence (Hindi)

#### **P.G. ONE YEAR DIPLOMA COURSE IN TAXATION LAWS & PRACTICE SCHEME OF EXAMINATION**

R. 21 E. for Diploma Course in Taxation, candidates must obtain for a pass at least 40% marks in the individual papers and 48% in the aggregate. Of the successful candidates, those securing 60% or more marks in the aggregate shall be placed in the First division and the rest in the Second divisions.

### **PAPER I**

#### **CONSTITUTIONAL LAW PROBLEMS IN TAXATION**

**Max. Marks 100**

**Min. Marks 40**

This paper provides the students instruction in the provisions of the constitution which deal tax powers of the Union and the States. The union state revenue distribution. Constitutional limitations-general and specific on taxation process. It also provides for a study into the impact of

the relevant articulated tax policy formulation embodied in the Directive Principles of State Policy. The Breakup of the Paper is as given below:

- a. Taxation and taxes, Fee & tax. Compulsory Deposits Direct- Indirect Taxes.
- b. Law and Taxation, Article 265, Act or Ordinance, Article 245, Articles 246, 248 Relevant entries of the Union List (List I) and the State List (List II) of the Seventh Schedule to the Constitution. Arts. 123- Union of India v. S. H. S. Dillon.

#### **LEGISLATIVE RESTRICTIONS**

- i. Raj Narain V/s Chairman, Patna Administration Committee, A.I. R. 1954, S. C. 564.
- ii. Shama Rao V/s Union Territory of Pondicherry A. I. R. 1967 S. C. 1480. Legislation Procedure for Tax Laws.
- iii. Distribution of Union Revenues Articles 268-279. Finance commission Articles 280-282. The Finance Commission (Miscellaneous Provisions) Act. 1951.
- iv. Uniform Taxation. Articles 286- Inter state Taxation. The Central Sales Tax Act, 1956. Bengal Immunity Co. Ltd. V/s State of Bihar A. I. R. 1955 S. C. 661. Gwalior Rayons Ltd. V/s Assistant commissioner, A. I. R. 1974 S. C. 1660. (1974) 4. S. C. C. 98. Law Commission Inter- State Tax (Second Rept. 1956).
- v. Inter- State Commerce and Taxation- Articles 301-304 : Auto mobiles Transport (Rajasthan) Ltd. V/s State of Rajasthan A. I. R. 1962 S. C. 1406. Atiabari Tea Co. Ltd. V/s State of Assam. A. I. R. 1961. S. C. 232.
- vi. In re Sea Customs Act (1878) S. 20 (2) AIR/1963 S. C. 1760.

#### **Suggested Readings :**

1. M. P. Jain : Indian Constitutional Law.
2. Basu D. D. Indian Constitutional Law.
3. Srivastava. H. M. Constitutional Law.
4. Alica Jacob : The Finance Commission : Its Role in adjustment of Union State Finance Relations ,Constitutional Developments- Since Independence I. L. I. (1975).
5. Alica Jacob & S. N. Jain : Tax : Rental Arrangement Replacement of Sales Tax Additional Duties of Excise Indian, Constitution Trends and Issues I. L.I. (1978).

#### **PAPER II**

##### **COMMERCIAL LAW AND ACCOUNTANCY:**

**Max. Marks 100**

**Min. Marks 40**

- a. Indian Contract Act, 1872 (Sections 1 to 75) for 60 marks Section A.
- b. Commercial Accounts- especially preparation of Trial Balance, Profit and Loss Account and Balance Sheet for 40 marks Section B.

#### **Books Recommended:**

1. Mulla D.F. : Indian Contract Act.
2. Singhal J. P.: Indian Contract Act. (latest edition).
3. Batliboy : Elementary Account.

#### **PAPER III**

##### **INCOME TAX LAW AND PRACTICE**

**Max. Marks 100**

**Min. Marks 40**

#### **Books Recommended:**

1. Kanga & Palkhivala - The Law and Practice of Income Tax.

#### **PAPER IV**

##### **DIRECT TAX LAWS**

**Max. Marks 100**

**Min. Marks 40**

- a. Wealth Tax Act. 1957.
- b. Gift Tax Act, 1958.

#### **Books Recommended:**

1. Shiv gopal- Commentaries on Estate Duty Act, 1957.

2. Kaushal S. C. Commentaries on the Gift Tax Act, 1958.
3. Hewit H. W. Green's death Duties.
4. Ayyangar - The Three New Taxes.

**PAPER V**  
**INDIRECT TAXES LAW**

**Max. Marks 100**

**Min. Marks 40**

- i. The Central Goods and Services Tax Act, 2017

**Books Recommended:**

1. Taxmann's Bare Act, GST Acts with rules and forms 3rd edition 2020.
2. Milind Kumar, Goods & Services Tax, Law and Practice edition 2019.
3. Taxmann's GST Ready Reckoner 14th edition, 2020

**PAPER VI**  
**ESSAY: AN ESSAY ON ANY ASPECT OF THE COURSE OF STUDY**

**Max. Marks 100**

**Min. Marks 40**

**P.G. ONE YEAR DIPLOMA COURSE IN LEGAL AND FORENSIC SCIENCE**

1. Every candidate for the Diploma Course in Legal and Forensic Science shall be examined in the following six papers in theory and practical examination separately. The theory paper shall be of three hours duration and practical paper shall be of five hours (one day).

Paper I: Criminal Jurisprudence and Evidence Law

Paper II: **Identification of Individuals**

(a) Theory

(b) Practical

Paper III: Identification of Finger Prints

(a) Theory

(b) Practical

Paper IV: Identification of Objects

(a) Theory

(b) Practical

Paper V: Identification of Hand-writing

(a) Theory

(b) Practical

Paper VI: Medical Jurisprudence and Forensic Science

2. A candidate who after having passed the examination of Bachelor of Law (LL.B) with at least 48% marks in the aggregate of M.Sc. or B.Sc. with at least 50% marks in the aggregate of this University or of any other Indian University recognized for the purpose by the syndicate shall be permitted to appear at the examination in the Diploma course in Legal and Forensic Science after having pursued a regular course of study in the university for one academic year.

The Candidate shall be admitted as per following ratio:

- |                          |           |
|--------------------------|-----------|
| (a) For LL.B Students    | 60% seats |
| (b) For M.Sc. Students   | 20% seats |
| (c) For B.Sc. I Division | 20% seats |

**SCHEME OF EXAMINATION**

For the Diploma Course in Legal and Forensic Sciences, candidates must obtain, for a pass, at least 40% marks in individual paper and 48% marks in aggregate. Of the successful candidates, those securing 60% or more marks in the aggregate shall be placed in the first division and the rest in the second division.

**PAPER I**  
**CRIMINAL JURISPRUDENCE AND EVIDENCE LAW**

**Max. Marks: 100**

**Min. Marks 40**

- Note: i. The syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.
- ii. In order to ensure that students do not leave our important. Portions of the syllabus, examiners shall be free to repeat the questions set in the previous examination.

**Unit I**

The nature of crime, principles of criminal jurisprudence with special reference to Article 21 Current Causal Theories Relating to Criminal Behaviour; Common link and cohesion between Legal Professional and behavioural Scientists : Effectiveness of various alternative, Social and legal devices in controlling deviant behavior our handling of delinquents, including Juvenile, Approaches and Methods of Crime Detection, Social Role and Police Behaviour.

**Unit II**

Tactical and Practical application of Criminal Law techniques of trying criminal case investigation discovery and trial preparation F.I.R. its legal value investigation into cognizable and non-cognizable offences, inspection of the scene of occurrence and collection of material from the place of occurrence. Police Diaries and Registers.

**Unit III**

Qualification of an expert, Admissibility of Expert evidence, Examination of Expert, Admissibility of non-Expert Evidence, Comparison of Admitted writings with the Disputed writings its Evidentiary value, Legality of Conviction based on Expert Evidence, Value and Credibility of Expert opinion Duty of Court to examine expert, onus of proof Expert as a witness.

**Unit IV**

Fundamental Principles of Investigation, Powers Duties and Functions of Investigators, Police Personnel, Prevention of Crime, Preconceived Theories, Essential qualities of an investigator interrogation of witness and accused.

**Unit V**

General Procedure in an Investigation, Investigation in Death cases. Investigation in sex offences. Apprehension of the Fugitive; Surveillance Interrogation, Techniques, Professional and Habitual offenders, racket investigations, International Crime - Interpol, Search and Seizure.

**Books Recommended:-**

1. Lucas : Forensic Chemistry and S.... Criminal Investigation.
2. Mitchell, C, Aiasworth : The Scientific Detective and the Expert witness
3. Mitchell, C. Aiaswoth : The Expert Witness.
4. W.Teignmouth Shases : Crime and its Diction, Vols. I and II
5. Hardless and Shrivastava : Case Law on Expert Evidence Col. 6. Maurice Fitzgrad : Hand Book Of Criminal Investigation.
7. Richard L Jackson : Criminal Investigation.
8. Yadav : Police Investigation and Prosecution (Hindi)
9. Babel B.L. Police Investigation (1984 Ed.) Hindi)
10. Gupta, R.L. : Law Relation to Identification and Expert Opinion.
11. Nath, Bholeshwar : Cases and Materials on Law of Evidence
12. Keller : R.V. : Outlines of Criminal Procedure (1984 Ed.)
13. Kenny : Outlines of Criminal Law
14. Hall : Studies in Jurisprudence and Criminals
15. Ratan Lal : Criminal Procedure Code, 1973
16. Ratan Lal : Indian Evidence Act. 1872
17. Krisk Paul L : Crime Investigation
18. Hans Gross, John Adam and J. Collya Adam : Criminal Investigation.
19. Ded, R L Criminology, Criminal Law and Investigation

20. Harry Soderman : Modern Criminal Investigation

**PAPER II (A) THEORY**  
**INDENTIFICATION OF INDIVIDUALS**

**Max. Marks : 80**

**Min. Marks : 32**

Note : i. The Syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.

ii. In order to ensure that students do not leave out important portions of the syllabus. Examiners shall be free to repeat the questions set in the previous examination.

**Unit I**

Identification of- Race, Sex, Age, Classification, Hair, Anthropometry, Foot Prints, dactylography, Scars, Tatoo, Marks, Hand writing, Occupation Marks, Gait etc.

**Unit II**

Examination of body fluids and others to secure incrimination evidence from within the body of the accused such as :

a. A. Blood stain, B. Seminal stain, C. Vomit D. Urine, E. Stool, F. Saliva, G. C.S.F., (Cerebrospinal Fluid)

b. A. Skin, B. Hair C. Nail, Taking of photographs removing incrimination evidence from outside the body of the accused.

**Unit III**

a. Identification of Weapons and Firearm ammunitions in relation to injuries. Flooroscopic examination of the body and extraction of foreign objects.

b. Salient features of injury report and post mortem report, Medical certificate.

**Unit IV**

Examination to determine insanity:

- a. Delusion
- b. Hallucination
- c. Elusion
- d. Impulse
- e. Obsession
- f. Lucid interval
- g. Pain and true insanity
- h. Restraint of the insane
- i. Physiological and psychological test.

**Unit V**

a. Identification and salient features of common poisons.

b. Preservation of Viscera and other material and

c. The Identification of Prisoners Act. 1920 and the Prisoners Act. 1984

**Book Recommended**

- 1. Gupta R.L. : Law Relating to Identification and Expert Evidence.
- 2. Mitter : Law of Identification and Discovery
- 3. Wilder, W.W. and Wenworth, B : Personal Identification
- 4. Tripathi : Self-incrimination : Physical and Medical Examination of the Accused.
- 5. Osterburg, James, N.:Crime Laboratory
- 6. Harry Soderman : Modern Criminal Investigation
- 7. Nigel Morlaud : An outline of Scientific Criminology
- 8. Jhala, R.M. : Criminal Investigation and Medical Science

**PAPER II (B) PRACTICAL**

**Max. Marks : 20**

**Min. Marks : 08**

Duration of Practical Examination 5 Hours (one day)

The Candidate must pass in theory and practical examinations separately

- 1. Practical exercise and specimen from Unit I to Unit V of Paper II relation to Identification of Individuals 10 Marks
- 2. Practical Record book 05 Marks
- 3. Viva-Voce 05 Marks

**PAPER III (A) THEORY**  
**IDENTIFICATION OF FINGER PRINTS**

**Max. Marks : 80**

**Min. Mark : 32**

- Note : i. The Syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.
- ii. In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the questions set in the previous examination.

**Unit I**

- a. History of Finger Prints.
- b. Ridge Formation - Ridge, Destruction, and
- c. Types of Finger print patterns-pattern interpretation.

**Unit II**

- a. Ridge characteristics-Ridge counting, Ridge tracing.
- b. The Finger print outfit-Recording finger prints, and
- c. Functions of the Finger Print card-Special circumstances.

**Unit III**

- a. Latent Finger Print Crime Scene procedure
- b. Primary Classification
- c. Sub-Classification : Unlettered loop whorl Lettered Loop.

**Unit IV**

- a. Latent finger Print
- b. Combinations and approximating patterns,
- c. Preparing Finger Prints for court, and
- d. F.B.L. Examination to the Henry System

**Unit V**

- a. The Finger print witness in court case histories.
- b. Identification of Palm and Foot Print, and
- c. Bureau, Operation and records.

**Books Recommended :**

1. Collins, G.S. : Finger Print Clause (H.M.S.O.)
2. Smith Henry : The Forgery of Finger Print, Transaction
3. Medico Legal Society vol. XXIV
4. Brewster, F : Finger Prints, Eastern Law House, Calcutta
5. Chatterjee S.K. : Finger, Palm and sole Prints.
6. Fidd Ania T. : Finger Print Hand Book
7. Gregory R.A. : Identification of Disputed Documents
8. Finger Prints and Blistis (1960), Eastern Book Co. Luckow.
9. Gatton, S : Finger Prints.
10. Henry, E : Classification and Use of Finger Prints.
11. Osterburg, James, W : Crime Laboratory
12. Harry Soderman : Modern Criminal Investigation
13. Nigel Morland : An Outline of Scientific Criminology

**PAPER III (B) PRACTICAL**

**Max. Marks : 20**

**Min. Marks : 08**

Duration of Practical Examination : 5 Hours (one day)

The Candidate must pass in Theory and Practical Examinations separately.

The distribution of marks for practical examination shall be as under :

1. Five practical exercises, one from each unit  
relating to Identification of Finger Print 10 Marks
2. Practical Record Work 05 Marks
3. Viva-Voce 05 Marks

**PAPER IV (A) THEORY**  
**IDENTIFICATION OF OBJECTS**

**Max. Marks: 80**

**Min. Marks 32**

- Note: i. The Syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.  
ii. In order to ensure that students do not leave out important portions of the syllabus, examiners shall be free to repeat the questions set in the previous examination.

**Unit I**

Identification of type writing, fiber identification paints, varnishes, glass, wood and paper identifications.

**Unit II**

Identification of ballistics, dust, dirt, debris, ashes soil and powers.

**Unit III**

Identification of liquids and chemicals, identification of poison, explosives, clothes, fire arms and bullets, weapons, tools, instruments and metals.

**Unit IV**

Identification of Vehicular colour detection in accident cases, imprints on object other than fingers poison effects and death while lightning and electricity.

**Unit V**

The Provisions of food Adulteration Act. 1954 the Arm Act. and the Fire Arms and Explosive Act. relating to identification of objects.

**Books Recommended :**

1. Gregory, R.A.: Identification of disputed documents. Finger Prints and Ballistks (1960), Eastern Book Co., Locknow.
2. Ajar : Law and Practice of Arms, Ammunition and Explosives (1985 Ed.)
3. Malik, Vijay : The Explosives Act. 1984 and Explosives Substance Act. 1908
4. Gupta, R.L. Law Relating to Identification and Expert opinion and Firearm injuries
5. Osterdurg, James, K.S. : Crimc Laboratory
6. Harry Soderman : Modern criminal Investigation
7. Nigel Morland : An Outline of Scientific Criminology
8. Firearms in Criminal Investigation and Trial

**PAPER IV (B) PRACTICAL**

**Max. Marks : 20**

**Min. Marks : 08**

Duration of Practical Examination 5 Hours (one day)

The candidate must pass in Theory and Practical Examination Separately.

The distribution of marks for practical examination shall be as under:

1. Four practical exercises, one each from Unit I to IV paper IV relating to Identification of Objects. 10 Marks
2. Practical Record Work 05 Marks
3. Viva- Voce 05 Marks

**PAPER V (A) THEORY**  
**IDENTIFICATION OF HAND WRITING**

**Max. Marks : 80**

**Min. Marks 32**

- Note : i. The Syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.  
ii. In order to ensure that students do not leave out important portions of the syllabus, Examiners shall be free to repeat the questions set in the previous examination.

### **Unit I**

Languages and dialects of India

### **Unit II**

Standards of Comparison Identification of hand writing, wheaber a science, general characteristics of hand writing

### **Unit III**

Writing habits, comparison of different hand writings personal characteristics.

### **Unit IV**

Forgery, disguised writing different inks, additions alterations, erasures and sequence of strokes.

### **Unit V**

Examination of documents including currency notes and valuable securities in doubt, past hand writing of accused hand writing by left and right hand comparison of different curves in present and past hand writing.

#### **Books Recommended :**

1. Smith Heniy : The Forgery of Finger Print-Transaction
2. Gregory, R.A. : Identification of Disputed Documents, Finger Prints and Ballistics.
3. Blackburn, D and Codel. C.W. : Detection of Forgery

### **PAPER V (B) PRACTICAL**

**Max. Marks : 20**

**Min. Marks : 08**

Duration of Practical Examination 5 Hours (one day)

The candidate must pass in theory and practical examination separately.

The distribution of marks for practical examination shall be us under:

1. Five practical exercises, one for each unit relating to identification of Hand Writings. 10 Marks
2. Practical Record work. 05 Marks
3. Viva-Voce 05 Marks

### **PAPER VI**

#### **MEDICAL JURISPRUDENCE AND FORENSIC SCIENCE**

**Max. Marks: 100**

**Min. Pass Marks: 40**

- Note : i. The Syllabus has been divided into units. Questions will be set from each unit with provision for internal choice.
- ii. In order to ensure that students do not leave out important portions of the syllabus. Examiners shall be free to repeat the questions set in the previous examination.

#### **Unit I**

Post mortem examination  
Examination of mutilated bodies.  
Examination of bones, and Exhumation.

#### **Unit II**

Death - Definition, Modes  
Signs of death - Changes in eye  
Changes in skin  
Cooling of body  
Post-Mortem staining  
Changes in muscles  
Purification  
Adepicare, and  
Mummification

#### **Unit III**

Death from Asphyxia and other types :  
a. i. Hangingii. strangulation

- iii. Suffocation    iv. Drowning
- b. i. Starvation

#### **Unit IV**

**Injuries :** Medico-legal Aspects of injuries, burns. Lightning, electricity and mechanical violence, Suicidal, Homicidal and Accidental injuries.

#### **Unit V**

Virginity  
 Pregnancy  
 Legitimacy  
 Sexual offences, examination of victim and accused.  
 Sodomy - Examination of the active and passive agent.  
 Miscarriage and Infanticide  
 Child born alive and still born causes of infanticide,  
 Law in relation to medical men, and  
 Duties of physician, professional negligence and responsibility.

#### **Book Recommended**

1. Modi, N.J. : Modi's Medical Jurisprudence
2. Taylor : Principles and practice of Medical Jurisprudence, Vol 1 & II
3. Lyons : Medical Jurisprudence for India
4. Jhala, R.M. and Raju, V.B. : Medical Jurisprudence.
5. Singhal, L.J. : Forensic Medicines
6. Dougals, J.A. Ken : Forensic Medicines
7. Teigumouth E, Shore : Crime and its Detection, Vols, I and II                      Gradwel:    Legal  
Medicine
8. Millik, C.C. : Hand Book of Medical Jurisprudence.
9. Prakh, C.K. : A Simplified Text Book of Medical Jurisprudence                      and Toxicology.

#### **P.G. ONE YEAR DIPLOMA IN HUMAN RIGHTS**

R. 21F A candidate who has passed the Bachelor of Laws (P) degree examination of the University or M.A. Political Science or M.A. Sociology degree of the University or an examination of some other University recognized by the Board of Management of the University as equivalent there to securing a minimum of 50% marks in aggregate and thereafter pursued a regular course of study in affiliated college for one academic year shall be eligible for admission to the Diploma Examination.

There shall be a teaching of six hours per paper per week.

The examination for the Diploma in Human Rights shall consist of one-year programme and there will be an examination at the end of the year.

For Diploma Course in Human Rights, candidate must obtain for a pass at least 40% in the individual papers and 48% in aggregate. Of the successful candidates, those securing 60% or more marks in the aggregate shall be placed in the First Division and the rest in the Second Division.

Each paper shall be of three hours duration and carry 100 marks.

#### **PAPER I**

#### **HUMAN RIGHTS: HISTORICAL, COMPARATIVE AND ANALYTICAL PERSPECTIVES**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. Basic Concepts and Processes
2. Historical Antecedents to Contemporary Human Rights Movement - Magna Carta, French Declaration, American Bill of Rights
3. Customary International Law of Human Rights
4. The Notion of 'Rights': Origin and Relation to 'Duties'
5. Classification of Rights:

- a. Individual Rights
- b. Natural Rights
- c. Group Rights
- d. Derogable and Non-derogable Rights
6. Universalism and Cultural Relativism.
7. UN Charter and Human Rights

## **PAPER II**

### **INTERNATIONAL PROTECTION AND ENFORCEMENT OF HUMAN RIGHTS**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. Universal Declaration of Human Rights
2. International Covenant on Civil and Political Rights (ICCPR), 1966
3. Implementation Mechanism under ICCPR - Human Rights Committee
4. International Covenant on Economic, Social & Cultural Rights, 1966
5. Committee on Economic, Social and Cultural Rights.
6. Implementation of Human Rights through Charter based Organisations
  - i. General Assembly
  - ii. Economic and Social Council
  - iii. Commission on Human Rights
  - iv. Sub-commission for Protection and Promotion of Human Rights
7. European Convention on Human Rights and Enforcement Mechanism - European Court of Human Rights.
8. American Convention on Human Rights and Enforcement Mechanism
  - a. American Commission on Human Rights.
  - b. American Court of Human Rights.
9. African Charter on Human and Peoples' Rights and Enforcement Mechanism – African Commission on Human Rights
10. State of Emergency under International Human Rights Law and Enforcement of Rights

## **PAPER III**

### **INDIAN LAW ON HUMAN RIGHTS**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. Historical development of Human Rights in India
2. Constitutional Recognition of Human Rights -
  - a. Fundamental Rights
  - b. Directive Principles of State Policy
3. Enforcement of Human Rights –
  - i. Role of Judiciary
  - ii. Role of Commissions
    - a. National Human Rights Commission of India (NHRC)
    - b. National Commission for Minorities (NCM)
    - c. National Commission for Women (NCW)
    - d. SC/ST/OBC Commission
4. Role of NGOs in the Protection of Human Rights
5. State of Emergency and Enforcement of Human Rights

## **PAPER IV**

### **RIGHTS OF SPECIAL GROUPS AND COLLECTIVE RIGHTS**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. Women
2. Children
3. Persons with Disabilities
4. Rights of Indigenous People
5. Rights of Refugees

6. Right to Development
7. Right to Clean Environment
8. Case Studies

**PAPER V  
TORTURE**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. United Nations Instruments dealing with Torture
  - i. UN Convention against Torture, 1984
  - ii. UN Standard and Minimum Rules for Treatment of Prisoners
2. Custodial Torture
3. Role of Human Rights Institutions in Prevention of Torture
4. Role of NGOs and other agencies in Prevention of Torture
5. Compensation and Social Rehabilitation of Victims of Torture.

**PAPER VI  
PROJECT WORK ON ANY TOPIC IN HUMAN RIGHTS LAW**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

Each student will be required to submit a project report on any topic in Human Rights Law carrying 100 marks.

**Recommended Readings Books**

1. Alferdsson, Gudmundur and Justice Pending - Indigenous Peoples and Other Good Causes Stavropoulou, Maria (2002).
2. Alston, Phillip The United Nations and Human Rights (1995).
3. Alston, Philip and Steiner, H.J. International Human Rights in Context (2000).
4. Agnes, Flavia Law and Gender Inequality (1999).
5. Basu, Durga Das Human Rights in Constitutional Law (New Delhi: Prentice Hall, 1994).
6. Baxi, Upendra Future of Human Rights (2002).
7. Bosoglu, Metin Torture and Its Consequence: Current Treatment Approaches (1992).
8. Bueren, Geraldine Van International Law on the Rights of the Child (1995).
9. Caney, Simon and Jones, Peter (eds.) Human Rights and Global Diversity (2001).
10. Cranston, M. What are Human Rights? ( 1973).
11. Freeman, Michael Human Rights: An Interdisciplinary Approach (2002).
12. Gogia, S.P. Law Relating to Human Rights (2000).
13. Gonsalves, Colin, Sakhrain, Prisoner's Rights (1996).  
Monica and Fernandes, Annie
14. Gupta D.N. and Singh, Chandrachur Human Rights: Acts, Statutes and Constitutional Provisions (2003).
15. Hammer, Leonard M International Human Rights and Freedom of Conscience: Some Suggestions for its Development and Application (2001).
16. Hilsdon, Anne Marie (ed.) Macintyre, Martha (ed.) and Stivens, Maila (ed.), Human Rights and Gender Politics Asia Pacific Perspectives (2000).
17. Ife, Jim Human Rights and Social Work: Towards Rights Based Practice (2001).
18. National Human Rights Commission Annual Reports.
19. Iyer, Venkat (ed.), Democracy, Human Rights and the Rule of Law: Essays in Honour of Nani Palkhivala (2000).
20. Jhunjhunwala, Bharat (ed.) Governance and Human Rights (2002).
21. Mishra, Pramod (ed.) Human Rights in South Asia (2000).
22. Murray, Rachel African Commission on Human and Peoples Rights and International Law (2000).
23. Nirmal, Chiranjivi J. (ed.) Human Rights in India: Historical, Social and Political Perspectives (2000).

24. O'Donovan, Katherine and Rubin Gerry R. (eds.), Human Rights and Legal History: Essays in Honour of Brain Simpson (2000).
25. Paul, R.C. Situation of Human Rights in India (2000).
26. Peter, S.E. Human Rights: Perspective and Challenges (New Delhi: Lancers Books, 1994).
27. Rai, Rahul Monitoring International Human Rights (2002).
28. Rao, D. Bhaskara (ed.) World Conference on Human Rights (2003).
29. Sachar, Rajindar Human Rights: Perspective and Challenges (2004).
30. Saksena, K.P. (ed.) Human rights and the Constitution: Vision and the Reality (2003).
31. Sen, Sankar Human Rights and Law Enforcement (2002).
32. Sinha, Manoj Kumar Implementation of Basic Human Rights, (1999).
33. Sreekumar, R. Handbook for Prison Visitors: Checking, Correcting and Preventing in Prisons (2003).
34. Wallace, Rebecca M.M. International Human Rights: Text and Materials (2001).

#### **P.G. ONE YEAR DIPLOMA IN INSURANCE LAW AND MANAGEMENT**

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There shall be a teaching of six hours per paper per week.

The examination for the Diploma in Insurance Law and Management shall consist of one-year programme and there will be an examination at the end of the year.

For Diploma Course in Insurance Law and Management, candidate must obtain for a pass at least 40% in the individual papers and 48% in aggregate. Of the successful candidates, those securing 60% or more marks in the aggregate shall be placed in the First Division and the rest in the Second Division.

Each paper shall be of three hours duration and carry 100 marks.

#### **PAPER I PRINCIPLES OF MANAGEMENT**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. Concepts of Management: Nature, meaning, significance of management: management functions- skills and roles of manager: comparative management- management in future
2. Evolution of Management thought: Classical school of thought, Modern school of thought  
Controlling:: Definitions, elements, and control techniques, behavioural aspects of control, coordination, and techniques of coordination, determinants of effective control system.
3. Planning: Nature and significance of planning, objectives, MBO, steps in planning, decision making as a key factor in planning, planning process, techniques of decision making, long term planning, short term planning, strategies and policies, determination of effective planning.
4. Organization and staffing: The nature and significance of organization, approaches to organizing, departmentation, line and staff relationship, delegation and decentralization, committee system, determination of effective organizing, staffing, nature and significance, selection, appraisal and development of managers.
5. Direction: definitions, determinants of effective direction, leadership- meaning, leadership style and theories, communication- communication process, verbal and non- verbal communication, barriers in communication, techniques of effective communication.
6. Interactions of various departments: the need, role and functioning of various departments, like Personal Management, Financial Management, Marketing Management, Production Management and Purchase Management etc.

**PAPER II**  
**PRINCIPLES AND PRACTICE OF INSURANCE**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. The concept of Risk: kinds and classification, assessment and transfer.
2. The concept of Insurance: classification of insurance, types of life insurance, pure and terms, types of general insurance, fire, marine, motor, engineering, aviation and agricultural, pecuniary interest, liability and person
3. Insurance professionals and intermediaries.
4. Basic principles of insurance: utmost good faith, insurable interest, material facts, indemnity, and proximate cause.
5. Economic principles of insurance: sharing, subrogation, and contribution.
6. Financial principles: premium funds, investments, reserves, surplus, and valuation of surplus.
7. Theory of rating, actuarial principles, mortality tables, physical and moral hazard, representations, warranties, conditions.
8. Risk appraisal: risk selection, underwriting.
9. Reinsurance: concepts and methods.
10. Practice of insurance: insurance documents and business procedure: proposal form, cover note/interim receipt, police, endorsement, certificate of insurance, renewable notice, underwriting, business procedure.

**PAPER III**  
**INSURANCE LEGISLATIONS**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. The Insurance Act, 1938
2. Life Insurance Corporation Of India Act, 1956: objectives, Functions, Organization, Central Office, Zonal office, Divisional office, Branch office, Insurance Agent- Definition, Disqualification, Kinds, Duties, Rights, working.
3. Nationalization of General Insurance and General Insurance Business (Nationalization) Act 1972: Main Provisions, Functions of GIC, and Objectives. Role and Activities of GIC,
4. The Insurance Regulatory and Development Authority Act 1999: Insurance regulatory and Development Authority: Composition, Chairperson, Meetings, Finance, Accounts, and Audit.
5. The Public Liability Insurance Act, 1991
6. Consumer Protection Act, 2019
7. The Arbitration and Conciliation Act, 1996.
8. Lok Adalats.

**PAPER IV**  
**GENERAL PRINCIPLES OF CONTRACT AND COMPANY LAW**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. Formation of contract: definition of contract, proposal, acceptance, essentials of a valid contract, capacity to contract, consideration, standard form contract, quasi contract.
2. Void and avoidable contract: contract contrary to public policy, contract under duress, undue influence, misrepresentation, free consent, mistake of fact, unlawful consideration and objects, agreement in restraint of marriage, agreement in restraint of trade, agreement in restraint of legal proceedings, uncertainty, wagering contract,
3. Discharge Remedies of contract: Classification of remedies, Quantum meruit, and discharge by performance, frustration, novation, damages, and remoteness of damages
4. Pledge, bailment, hypothecation, guarantee, agency, lien and partnership.
5. Company: origin, development, nature, advantages and disadvantages of company.
6. Formation of company: Promotion, registration, flotation, incorporation and commencement of business.
7. Prospectus: definition, content, liability for misrepresentation, and statement in lieu of prospectus.

8. Share, Share Capital and Debenture: Definition, Kind of share and share capital, allotment of share.
9. Winding up: type of winding up, conduct of winding up.
10. Drafting exercise: Standard, bailment, pledge and Indemnity, government contracts

#### **PAPER V**

#### **INSURANCE BUSINESS ENVIRONMENT**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

1. The economic environment: National income, the five year plans, inflation, recession, fiscal policy, value added tax (VAT) Information technology, telecommunications technology, world economic forum, agricultural sector, natural resources, land, water, milk, minerals, oils and gas, infrastructure, warehousing, power, roads, railways, ports.
2. Social and political environment: constitution, political environment, social milieu, population, age profile, income and savings, education, health, employment, spending and saving pattern, readership, ethos and culture.
3. The industrial environment: the socialistic pattern, economic reforms, globalization, industrial policies, index of industrial production, public sector, small scale sector, monopolies, standards, automobile sector, aviation, pharma, bio- technology, retailing, services, trade associations, international trade, exports and imports, World Trade Organization, Regional Groupings.
4. The commercial environment: forms of business organizations, Companies Act 2013, multinational ventures.
5. The fiscal environment: money, Narsimha Committee reports, mutual funds, non- banking finance company venture, capital funds, housing finance company, credit certification, leasing company, hire purchase financing, stock exchanges, SEBI, Discount and Finance House of India, money market instruments, Post Office Savings Schemes, depository receipts, commercial papers, Clearing Corporation of India.
6. Office organization: what is an office, an insurance office, departments in an office, classification of files, business correspondence, structure of a business letter, improvements, new technology, controls.
7. Indian Information Technology Act, 2000.

#### **PAPER VI**

#### **PROJECT WORK ON ANY TOPIC IN INSURANCE LAW AND MANAGEMENT**

**Maximum Marks: 100**

**Min. Pass Marks: 40**

Each student will be required to submit a project report on any topic in Insurance Law and Management carrying 100 Marks.

#### **Recommended Readings Books**

1. Burton Gene And Thakur Manab, Management Today, Principles and Practices; 4th reprint, 2000
2. Terry and Franklin, Principles of Management, AITBS Publishers and distributors 8th Edition 2002
3. Harold Koontz and Heinz Weilhrich, Management
4. Anson, Law of Contract, J Beastson, Ed. New York: Oxford University Press, 2003.
5. Mulla and Polloick, Law of Contracts, Butterworth, New Delhi, 2001.
6. Majumdar, Company Law, Taxman, New Delhi, 1990
7. Ramaiyya, Guide to Company Law. Wadhwa and Wadhwa, Nagpur, 2001.
8. Study courses of Insurance Institute of India:
9. IC 01 Principles of Insurance, 2004
10. IC 02 Insurance Business Environment, 2004

## SEMESTER-II

### National and Human Values

Course Code -FA- ENG -CF-200

#### Course Objectives

- To inculcate national and human values in the Students
- To enable the students imbibe the Indian cultural ethos
- To inculcate the spirit of Patriotism so that the Students develop a sense of strong bond with the nation
- To enable the students grow into a citizen possessing civic sense

#### Course Level Learning Outcomes

On the Successful completion of the course the students shall be able to

- Attain the civic skills enabling him/her to become a well-behaved citizen of the country
- Imbibe and spread the feelings of devotion and dedication

#### Course Description

##### Unit-I

NCC – Introduction, Aims, NCC Flag, NCC Song, NCC Administration, Raising of NCC in Schools/Colleges, NCC: Rank, Honours and Awards, NCC Training, NCC Camps, NCC Examinations, Incentive and Scholarship for Cadets

Importance of Discipline in Life, Aims and Merits of Discipline, Problems related to Indiscipline and Solutions

Drill – Definition, Principles of Drill, Bad habits in drill, Words of Command, Drill Movements, Arms Drill, Squad Drill, Guard of Honour, Ceremonial Drill, Guard Mounting

Contribution of NCC in Nation Building

##### Unit-II

Armed Forces – Control Command, Organization of Armed Forces, Weapons of Army, Navy and Air Force, Training institutes, Honours and Awards, Recipients of Param Veer Chakra, Badges of Ranks

Commission in Armed Forces – Recruitment in Armed Forces, Commission in Technical, Non-Technical and Territorial Forces

Weapon Training – 0.22 Rifle, 7.62 Rifle, 7.62 SLR (Self Loading Rifle), 5.56 MM I.N.S.A.S. Rifle, L.M.G. (Light Machine Gun), Stan Machine Carbine, 2” Mortar, Grenade, Pistol, Various types of Firing, Range Procedure and Range Drill  
Military History and Geography, Field Craft, Field Engineering, Battle Craft

### Unit-III

Obstacle Training, Adventure Training, Self Defence, Physical Posture Training  
 Social Service, Disaster Management, Health and Hygiene, First Aid  
 Leadership, Personality Development, Decision Making, Motivation, Duty and  
 Discipline, Morale

### Unit-IV

Value System – The Role of Culture and Civilization-Holistic living  
 Balancing the outer and inner – Body, Mind and Intellectual level- Duties and  
 Responsibilities  
 Salient Values for Life- Truth, Commitment, Honesty and Integrity, Forgiveness and  
 Love, Empathy and Ability to Sacrifice, Care, Unity, and Inclusiveness  
 Self-Esteem and Self confidence  
 punctuality – Time, Task and Resource Management, Team work  
 Positive and Creative thinking

### Unit-V

Universal Declaration of Human Rights  
 Human Rights Violations  
 National Integration – Peace and Non-violence (in context of Gandhi, Vivekananda)  
 Social Values and Welfare of the Citizen  
 The Role of Media in Value Building  
 Fundamental Duties  
 Environment and Ecological Balance – Interdependence of all beings – Living and Non-  
 living

### Suggested Readings:

- Hand Book of NCC : Major R C Mishra & Sanjay Kumar Mishra
- National Security: K. Subramanyam
- ASEAN Security: Air Comdr. Jasjit Singh
- Indian Political System, Dr . Pukhraj Jain & Dr. Kuldeep Fadiya
- हैण्डबुकऑफएनसीसी, मेजरआर. सी. मिश्रएवंसंजयकुमारमिश्र
- अन्तर्राष्ट्रीयराजनीति: वी. एल. फाड़िया
- भारतीयराजव्यवस्था, डॉ. पुखराजजैन, डॉ. कुलदीपफड़िया
- राष्ट्रीयप्रतिरक्षा: डॉ. हवीरशर्मा, जयप्रकाशनाथकंपनी, मेरठ
- राष्ट्रीयसुरक्षा: डॉ. लल्लनसिंह, प्रकाशबुकडिपो, बरेली
- राष्ट्रीयसुरक्षा: डॉ. नरेन्द्रसिंह, प्रकाशबुकडिपो, बरेली
- राष्ट्रीयसुरक्षा: डॉ. पाण्डेयवपाण्डेय, प्रकाशबुकडिपो, बरेली
- राष्ट्रीयरक्षावसुरक्षा: डॉ. एस. के. मिश्र, मार्टिनपब्लिशर्स, जालंधर

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### **Assessment and Evaluation**

The Students shall be assessed and evaluated as per the schedule given below –

Project Report / Case Study (in 5000-7000 words handwritten) – 75%

Viva-voce - 25%

The topics for the Project Report / Case Study shall be allotted by the Nodal Department (decided jointly with NSS wing under the supervision or IQAC) in consultation with the Department concerned. The Candidate shall submit the Report by the date fixed for the said purpose. It shall then be followed by a Viva-voce Examination. The whole evaluation shall be done by the Departmental Internal Faculty in consultation with the Nodal Department. It is a non-creditable Paper. The student will have to score simply a qualifying core/grade as specified in the CBCS rules.

The candidate will have to qualify the paper by the time He / She qualifies for the programme. He/She can avail maximum 3 chances along with the Semester Examinations.