

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 4

SEM-3019

M.Sc. (IIIrd Semester) Examination, 2022

COMPUTER SCIENCE

Paper - MCS 305 (B)

(LaTeX : A Document Preparation System)

Time : 3 Hours]

[Maximum Marks : 40

The question paper contains three Sections.

Section-A

(Marks : 1 × 10 = 10)

Note :- Answer all the *ten* questions carries 1 mark each. The answer should not exceed 50 words.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer *five* questions by selecting at least *one* question from each Unit. Each question carries 3 marks. Answer should not exceed 200 words.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer *three* questions by selecting *one* question from each Unit. Each question carries 5 marks. The answer should not exceed 500 words.

Section-A

1. (i) What is the use of LaTeX ?
- (ii) What is the LaTeX syntax of special character '@' ?

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SEM-3019 P.T.O.

- (iii) What are the advantages of hypertext links ?
- (iv) What do you mean by Emphasizing Text in the sentence ?
- (v) How can be write equation " $a_1 > x^{3n} | y^{2m}$ " in LaTeX Code ?
- (vi) What is the LaTeX code of nexted overlining $\overline{x^2 + 1}$?
- (vii) What is difference between slides and overlays ?
- (viii) What is syntax of LaTeX for Line breaking and page breaking ?
- (ix) Define rule box with suitable example.
- (x) What is the use of "\colorbox" command ?

Section-B

Unit-I

2. How can create a table with caption ? Create a table as given below in LaTeX.

Student Name	Marks
Amit	90
Sumit	80
Jatin	75

Table : Marks Detail

3. How can be write the type setting of mathematical equation in LaTeX ? Write given equation in LaTeX :

$$x + y = 1 \qquad \dots 1$$

$$x^2 + y^2 = 2 \qquad \dots 2$$

4. Format the following in LaTeX code :

$$1^2 + 2^2 + 3^2 + 4^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}$$

Unit-II

- 5. What are difference between image and floating bodies. Explain with suitable code of LaTeX.
- 6. Give the syntax of Text color and background color in a paragraph.
- 7. Explain, how can create a PDF file by using LaTeX Software ?

Unit-III

8. How can users add a new command with LaTeX environment ? Explain.
9. Prepare multiple choice questions based on the checkboxes and onepercheckboxes environment.
10. How can create Hyperlink of references in the research paper ? Explain.

Section-C

Unit-I

11. Design the document that demonstrated the section division :

Chapter 1 Mathematics

1.1 Compulsory papers

1.1.1. Core papers

- Analysis
- Calculus

1.1.2. Elective papers

- History of India
- Microelectronics

1.2 Optional papers

- Number theory
- Bio-Mathematics

12. Write the LaTeX command and code for given Mathematical operators :

(i) x^2

(ii) x_2

(iii) $\frac{1}{2}$

(iv) $\sqrt{2}$

(v) $3\sqrt{2}$

(vi) $\sum_{x=0}^{\infty} e^x$

(vii) $\prod_{k=1}^n k$

(viii) $\int_0^1 x \cdot dx$

(ix) $\{0\}$

(x) $\tan^{-1}x$

Unit-II

13. Write a syntax in LaTeX to draw a circle with radius 50 mm and blue color.
14. Write with an explanation, how to generate index and bibliography of a document.

Unit-III

15. Write a LaTeX code to generate a simple resume with details (Headings) :
 - (i) Name
 - (ii) Address
 - (iii) Qualification
 - (iv) Experience
 - (v) Project Developed
16. Prepare a presentation by using banner with following detail.

