

Roll No. : .....

Total No. of Questions : 16 ]

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# SCYS-125

M.Sc. (Computer Science) (Ist Semester)  
Examination, 2021

## CYBER SECURITY

Paper - MCSEC-104  
(C++ and Data Structure)

Time : 1½ Hours ]

[ Maximum Marks : 40

**Note :-** The question paper contains three Sections.

### Section-A

(Marks : 1 × 10 = 10)

**Note :-** Answer all *ten* questions (Answer limit **50** words). Each question carries **1** mark.

### Section-B

(Marks : 3 × 5 = 15)

**Note :-** Answer any *five* questions by selecting at least *one* question from each Unit (Answer limit **200** words). Each question carries **3** marks.

### Section-C

(Marks : 5 × 3 = 15)

**Note :-** Answer any *three* questions by selecting *one* question from each Unit (Answer limit **500** words). Each question carries **5** marks.

### Section-A

1 each

1. Attempt all *ten* questions. Answers should not exceed **50** words in each question.

(i) Define OOPs in your words.

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- (ii) What do you understand by Pointer ?
- (iii) What is Class ? How to define a Class ?
- (iv) Why we use Inline Function ?
- (v) What is Abstract Class ?
- (vi) What do you understand by String Class ?
- (vii) Explain the need of Virtual Function.
- (viii) What is Complexity of Algorithm ?
- (ix) Write down difference between Stack and Queue.
- (x) What is Abstract Data Type ?

**Section–B**

3 each

**Note** :- Answer *five* questions in about **200** words, by selecting at least *one* question from each Unit. Each question carries **3** marks.

**Unit–I**

- 2. Explain recursive function with example.
- 3. What do you understand by Static Data Members ?
- 4. What is the Constructor ? How do define it ?

**Unit–II**

- 5. Explain friend function with example.
- 6. Write a source code for linear search.
- 7. Explain insertion sort with suitable example.

**Unit–III**

- 8. What is Linked List ?
- 9. Explain Stack Operations.
- 10. What is Binary Tree ? Explain its representation as Array.

**Section–C**

5 each

**Note** :- Answer *three* questions in this Section, by selecting *one* question from each Unit in about **500** words. Each question carries **5** marks.

**Unit–I**

11. Explain passing arguments by value and reference with suitable example.
12. Explain Three-D Array in detail with suitable example.

**Unit–II**

13. Discuss the types of Inheritance.
14. Differentiate overloading and overriding with suitable example.

**Unit–III**

15. What are the applications of Binary Tree ? Explain in detail.
16. Differentiate Preorder and Inorder Tree Traversal with examples.