

**A-0823**

Total Pages : 4

Roll No. ....

**MCS-502/MIT(CS)-303**

**OOPS USING C++**

**M.Sc. Cyber Security (MSCCS)**

Examination, June 2025

Time : 2:00 Hrs.

Max. Marks : 70

**Note :-** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section-A**

**Long Answer Type Questions**      2×19=38

**Note :-** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Answer the following :
  - (a) What is meant by access modifier ? Explain exception handling with example. 7
  - (b) What is a static data member ? How they are used in static function ? Explain with suitable illustrations. 6
  - (c) Using the concept of function overloading, write a program to C++ to find the maximum of three integer number. 6
2. Answer the following :
  - (a) Explain class and function template using suitable example in C++ programming. 6
  - (b) Discuss the difference between virtual and pure virtual functions. 4
  - (c) Write a program to count number of occurrences of particular character in text file. 4
  - (d) Write a C++ program that displays a decimal number in reverse order. (ex if number is 34521, output expected is 12543) 5
3. Answer the following :
  - (a) Write a program to find out sum of two number using class & object.

- (b) Write a program that will create data file containing the list of telephone numbers as :

John 34567

Hari 56788

.....

Use a class object to store each set of data. 6

- (c) What is pointer in CPP ? Explain with help of example. 9

4. Answer the following :

- (a) What are File stream operations ? Write a program in C++ to demonstrate the file reading and writing operations. 10

- (b) Explain the concept of parameter passing using call by value and call by reference with suitable examples. 9

5. (a) Write a program in C++ to compute average marks of 50 students in the class. Take necessary assumptions. 10

- (b) Name any three library functions and any three preprocessor directives in C++ 3

- (c) Describe Relational operators in C++. 6

## Section–B

### Short Answer Type Questions      4×8=32

**Note** :– Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain File operation with suitable example in C++.
2. What do you mean by encapsulation and how it is implemented in C++ ?
3. What is exception handling ? How it is implemented in C++ ?
4. Write a sample code to show the structure of C++ program.
5. Explain different types of inheritance with the help of a sample program.
6. What are different types of data types, available in C++.
7. Write a program to compute factorial of a number, use of constructors shall be done.
8. What is polymorphism ? Write a program to show the use of polymorphism.

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