

# S-717

Total Pages : 4

Roll No. -----

## MCA-10/MSc (IT-10)

OOPS through C++

(MCA/MSCIT)

3<sup>rd</sup> Semester, Examination 2022(Dec.)

Time: 2 Hours

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.

### Section – A

(Long Answer – type questions)

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.

[2 x 19 = 38]

P.T.O.

- Q.1. Define the role of Operators in programming. Explain in detail the different types of operator used in C++.
- Q.2. Answer the following:
- (a) What is function? Differentiate between call by reference and call by value using a suitable example. (7)
  - (b) What is Dynamic Memory allocation? (7)
  - (c) What is the difference between Static binding and run time binding? (5)
- Q.3. What is a virtual function? Write a program in C++ to define a class "Teacher's with a virtual function "Salary". Derive Class "Associate-Professor" from class teacher and implement the salary function.
- Q.4. What do you mean by constructor overloading in C++? Explain with the help of an example.
- Q.5. Differentiate among private, public and protected access modifiers. Also explain their meaning when a derived class inherits from a base class using public, protected or private keywords, with the help of an example.

## Section – B

### (Short-answer-type questions)

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.

$$[4 \times 8 = 32]$$

- Q.1. Differentiate between Class and Structure with the help of an example.
- Q.2. What is pure virtual function? Give example.
- Q.3. Write a program in C++ to find the factorial of a given number.
- Q.4. Explain Switch. Write a C++ program to demonstrate the use of switch statement.
- Q.5. Explain Constructor with the help of an example.

P.T.O.

- Q.6. What is Operator Overloading? Explain how to overload unary operator in C++.
- Q.7. What is friend function? Explain use of friend function with the help of suitable example.
- Q.8. Write short notes on :
- a) Keywords
  - b) Reference Variables
  - c) Polymorphism
  - d) Array

\*\*\*\*\*