### P-817

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

#### OOPS through C++

(MCA/MSCIT)

3rd Semester Examination, 2023 (June)

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. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

#### **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.

 $(2 \times 19 = 38)$ 

- 1. What is Object Oriented programming? What are the benefits of Object Oriented programming over procedural oriented programming? Explain any five characteristics of object oriented programming languages in detail.
- 2. What do you understand by Decision and Control structures? Explain various types of loops used in C++ with the help of suitable example.
- **3.** Define a class that represents Fruit with properties fruit name, fruit type, fruit color. Write a program that accepts data of four fruits and displays the results.
- **4.** What is Inheritance? Explain public, private and protected access specifiers and show the ambiguity in multiple Inheritance.
- **5.** What is Polymorphism? Explain the types of polymorphism 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. (4×8=32)
- **1.** What do you mean by Dynamic binding? How it is useful in OOP?

- **2.** What is an abstract class? Explain with suitable example.
- **3.** Explain Array. Write a program to find the length of a string.
- **4.** What is Inheritance? What are different types of Inheritance? Explain with example.
- **5.** Explain overloading and overriding with the help of an example.
- **6.** Explain the role of destructor with the help of an example.
- **7.** What is Virtual function? What are the rules for Virtual functions?
- **8.** Write short notes on:
  - (a) Identifiers.
  - (b) Pointers.
  - (c) Structure.
  - (d) Abstract Class.