Roll No. ------------------

**MCA-10**

**Object-Oriented Programming through C++**

3rd Semester Examination 2024 (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. ***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**

**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. (2×19=38)**

1. Define inheritance? Explain different types of inheritance with an example.
2. Explain the basic data types available C++ and their significance in program design with example.
3. What is polymorphism? Explain the different types of polymorphism in C++ with an example.
4. What are Operators in C++? Explain different types of operator in C++ with an example.
5. What are conditional statements? Explain the different types of conditional statements with 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. Explain the features of Object oriented programming with an example.
2. What is the difference between while and do-while loop? Explain with an example.
3. Write a program in C++ to check whether a year is leap year or not.
4. What is Array? Explain the types of array with an example.
5. Differentiate between Structure and Union with an example.
6. Explain the following terms with an example:
7. Call by Value and Call by Reference.
8. Inline function
9. What is Constructor? Explain the different types of constructors with an example.
10. What is Virtual Function? Explain with an example.