

Roll No.

Total No. of Pages : 02

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**B.Sc.(CS) (Sem.-2)**  
**OBJECT ORIENTED PROGRAMMING IN C++**

**Subject Code : BCS-205**

**M.Code : 71510**

**Date of Examination : 14-07-22**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **SIX** questions carrying **TEN** marks each and a student has to attempt any **FOUR** questions.

**SECTION-A**

**1) Answer briefly :**

- a) What is a virtual function in C++? Explain with example in C++.
- b) Write a program to reverse an input string in C++.
- c) What is the difference between structure and class in C++?
- d) Explain about functions in C++? Explain with example.
- e) What is inheritance? Explain with example.
- f) Differentiate between interface and abstract class.
- g) What is scope resolution operator in C++? Explain with example.
- h) What are access specifiers in C++? Explain with example.
- i) If class B is derived from a base class A. When creating an object of type B in what order would the constructor of these classes get called?
- j) What is the “diamond problem” that can occur with multiple inheritance? Give an example.

## SECTION-B

2. What is a two-dimensional array in C/C++? How it is represented in memory? Write a program in C++ to sort the elements of a two-dimensional arrays in an ascending order.
3. What are the phases in object-oriented software development and what are its benefits?
4. What is the role of constructor and destructor in object oriented programming? Write a program to demonstrate the concept of copy constructor in C++.
5. What is polymorphism? How do you think it is suitable for object oriented programming? Write a program to implement overloading and overriding in C++.
6. What is the difference between procedure-oriented programming language and object-oriented programming language? Give a suitable real-world example to demonstrate the difference.
7. How file handling is done in C++? Write a C++ program to take two text files as an input from user. Display the content of both files on console. Also, write the content of first file followed by second file into a third file.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**