C

Roll No. _____

23/3100

# B.C.A. Examination, 2023

## Third Semester

### First Paper

**(Object Oriented Programming Using C++)**

*Time : Three Hours ]*                    *[ Maximum Marks : 75*

**Note :** Attempt **any five** questions. **All** questions carry equal marks. The answer to short questions should not exceed **200** words and the answers to long questions should not exceed **500** words.

1.  (a)  What do you mean by encapsulation and how it is implemented in C++?  9

    (b)  What is the need of Object-Oriented Programming paradigm?          6

**P.T.O.**

2.  (a)  Compare and contrast the structured programming and object-oriented programming.          7

    (b)  Explain Message Passing and Dynamic Binding.          8

3.  (a)  Explain the term class and object.  5

    (b)  What are constructors? Explain copy constructor with suitable example.  10

4.  (a)  Write short notes on:          8

        (i)   C++ garbage collection

        (ii)  Abstract Classes

    (b)  Differentiate between nested if-else and switch statement.          7

5.  (a)  How ambiguity in multiple Inheritance can be resolved?          5

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(b) With suitable program in C++, explain operator overloading. 10

6. (a) What is the use of 'this' keyword in C++? 4

(b) Discuss the use of public, private, and protected access specifiers and their visibility in the class. 6

(c) What do you mean by aggregation? 5

7. (a) With suitable example differentiate between overloading and overriding. 9

(b) What is inheritance? Explain run time polymorphism. 6

8. (a) What are the file streams? 5

(b) Write down a detailed C++ program to demonstrate the use of try, catch, throw and nested try. 10

9. (a) Explain the process of open, read, write, and close files. 10

(b) What do you mean by exception handling? Compare and contrast error and exception. 5