

Roll No.40.....

Exam Code : D-24

Subject Code—62439

B. Sc. EXAMINATION

(Main/Re-appear)

(Batch 2020 Onwards)

(Fifth Semester)

COMPUTER SCIENCE

CCsL-503

Object Oriented Programming Using 'C++'

Paper-I

Time : 3 Hours

Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. (a) What are insertion operators ? 2
- (b) What are inline functions ? 2

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- (c) Justify the need of the scope resolution operator for accessing global variables. 2
- (d) How is a member function of a class defined ? 2
- (e) Discuss new and delete operator in C++. 2
- (f) What is the use of destructors ? 2
- (g) How do you access private members of a class in inheritance ? 2
- (h) What is an abstract class ? 2

Unit I

- 2. (a) Differentiate between Procedure Oriented programming and Object Oriented programming. 10
- (b) Discuss the benefits and applications of Object Oriented programming. 6

3. Distinguish between the following : 16
- (i) Objects and Classes
 - (ii) Data Abstraction and Data Encapsulation
 - (iii) Static and Dynamic binding.

Unit II

4. Discuss the static data members and static member functions and write the programs for both. 16
5. (a) Explain scope resolution operator and its significance with example. 8
- (b) Discuss the friend function and friend class and write a program of a class friend. 8

Unit III

6. What is a Constructor ? Explain various types of constructors with the help of suitable examples in detail. 16

7. What is operator overloading ? Write the programs in C++ to overload Increment and Decrement operators. 16

Unit IV

8. What is the difference between multiple inheritance and multi-level inheritance ? How do we implement multi-level inheritance ? Explain using program. 16
9. (a) What is virtual base class ? Write a program in C++ to implement the concept of Virtual Base Class. 8
- (b) Write a program in C++ to show how constructors are implemented when the classes are inherited. 8