

Reg. No.

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BCACAC 157

**Credit Based II Semester B.C.A. Degree Examination, December 2021
(Common to all Batches)**

OBJECT ORIENTED PROGRAMMING USING C++

Time : 3 Hours

Max. Marks : 80

Instructions : Answer **any ten** questions from Part – A and **one full** question from **each** Unit of Part – B.

PART – A

1. a) What are manipulators ? Mention any two. **(10×2=20)**
- b) Define : i) Data encapsulation ii) Data hiding.
- c) What is the use of *new* and *delete* operators ?
- d) Differentiate private and public members of a class.
- e) What is function prototype ? Give example.
- f) What is static data member ? Give example.
- g) List any four operators that cannot be overloaded.
- h) What is destructor ? Give syntax.
- i) Define parameterized constructor.
- j) Define multilevel inheritance.
- k) What are the advantages of inheritance ?
- l) What is pure virtual function ? Give example.

PART – B

Answer **one full** question from **each** Unit.

Unit – I

2. a) Explain basic data types supported by C++.
- b) Explain any two types of *if* statements with syntax and example.
- c) Explain the structure of C++ program with example. **(5+5+5)**

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- 3. a) Explain the advantages of OOPs.
- b) Explain do while loop with syntax and example.
- c) Explain switch statement with syntax and example. (5+5+5)

Unit – II

- 4. a) Explain the concept of overloading a function in C++ with example.
- b) What is class ? How is it defined ? Explain with example.
- c) Write a note on passing by call and passing by reference. (5+5+5)
- 5. a) Explain the concept of private member functions with example.
- b) What is friend function ? What are the merits and demerits of using friend function ?
- c) Explain the concept of array of objects with example. (5+5+5)

Unit – III

- 6. a) Explain how multiple constructors are defined in a class with example.
- b) How do you overload a binary operator using member function ? Explain with example. (5+5+5)
- c) Explain basic to class type conversion with an example.
- 7. a) Write any five characteristics of a constructor.
- b) How do you overload a unary operator using friend function ? Explain with example.
- c) Explain class to basic type conversion with an example. (5+5+5)

Unit – IV

- 8. a) Explain hierarchical inheritance. Give example.
- b) Explain with example how runtime polymorphism is achieved using virtual functions.
- c) Explain private and protected inheritance with example. (5+5+5)
- 9. a) Explain multiple inheritance with an example.
- b) Explain the concept of containership with example.
- c) Explain with example resolving ambiguity in multiple inheritances. (5+5+5)

