

(b) Explain aggregation and composition used in object-oriented languages. Give their applications. 5

(c) Write a C++ program to illustrate operator overloading for binary and unary operator. 5

6. (a) Compare overloading and overriding of member functions. Explain with an example. 6

(b) Write a C++ program to illustrate virtual functions. 5

(c) Mention the rules for virtual functions in C++. 4

Unit IV

7. (a) Explain the persistent objects and multiple inheritance in C++. 4

No. of Printed Pages : 05

Roll No.

18E1

B.Tech. EXAMINATION, 2024

(Fifth Semester)

(C Scheme) (Main & Re-appear)

(CSE)

CSE301C

OBJECT ORIENTED PROGRAMMING

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. (a) Compare structural programming and object oriented programming. 5
- (b) Write a C++ program to illustrate new and delete operators. 5
- (c) Explain the features of inheritance and polymorphism. 5
2. (a) What is the difference between data encapsulation and data hiding ? 5
- (b) Explain inheritance and its applications. 5
- (c) Mention the difference between C and C++. 5

Unit II

3. (a) Write a C++ program to illustrate friend functions. Why friend function should be avoided ? 5

- (b) Give an example to illustrate the state and behavior of an object. 5
- (c) Write a C++ program to illustrate static data members and static function members. 5
4. (a) Write a C++ program to illustrate the role of constructors and destructors in a class. 6
- (b) Write a C++ program to illustrate the array of pointers to objects. 5
- (c) Explain meta class and const member functions. Give an example for each. 4

Unit III

5. (a) Write a C++ program to illustrate function template and class template. 5

- (b) Explain Manipulators. Write a C++ program to illustrate user defined manipulators. 6
- (c) Explain the role of iterators and allocators used in STL. 5
8. (a) Explain exception handling. Mention the process of handling uncaught exceptions. 7
- (b) Explain the features of the following STL : 8
- (i) Sequence Containers
 - (ii) Associative Containers
 - (iii) Derived Containers.

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