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Roll No. :

322455(22)

B. E. (Fourth Semester) Examination, 2020

(New Scheme)

APR-MAY 2022

(CSE Branch)

**OBJECT ORIENTED CONCEPTS &
PROGRAMMING using C++**

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory and carries 2 marks. Attempt any two parts from (b), (c) and (d) which carry 7 marks each.

Unit-I

1. (a) What do you mean by function overloading? 2
- (b) Explain basic concepts of object-oriented programming with the help of a sample program. 7

- (c) Write a detail note about data hiding techniques and show how it is implemented. 7
- (d) Describe the various characteristics of object-oriented programming. 7

Unit-II

- 2. (a) Give name of any two I/Os formatting functions with their meaning. 2
- (b) Explain concept of C++ streams. Draw hierarchy of console stream classes. 7
- (c) Explain static members of a class using a sample program. 7
- (d) What do you understand by friends of a class? Explain friend function between two classes using a program. 7

Unit-III

- 3. (a) Write meaning of new and delete operators. 2
- (b) What do you mean by constructors and destructors? Explain using a sample program. 7

- (c) Explain static and dynamic memory allocation using example program. 7
- (d) Write short notes on :
 - (i) Memory leak 3.5
 - (ii) This pointer 3.5

Unit-IV

- 4. (a) Define virtual base class. 2
- (b) Explain inheritance and its various types in C++. 7
- (c) Write a program in C++ to multiply a number with an object using operator overloading. 7
- (d) Demonstrate overriding of member function using a program in C++. 7

Unit-V

- 5. (a) What is Virtual destructors? 2
- (b) What do you understand by early binding and late binding? Explain using a program in C++. 7

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- (c) Explain error handling during file operations. 7
- (d) Write short notes on :
- (i) Exception Handling 3
 - (ii) Class templates 2
 - (iii) File stream classes 2