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B.Tech. (CSE) 4th Semester (G-Scheme)  
Examination, July-2022  
**OBJECT ORIENTED PROGRAMMING**  
Paper- PCC-(CSE-208-G)

Time allowed : 3 hours] [Maximum marks : 75

*Note : Question No. 1 is compulsory. The students have to attempt five questions, in total and one question from each unit.*

1. Write short note on the following: 6×2.5=15
- (i) Class and object
  - (ii) Dangling pointers
  - (iii) Abstract class
  - (iv) Early and late binding
  - (v) Access/Visibility specifiers
  - (vi) Header files and library files

**Unit - I**

2. (a) Differentiate between procedural programming and object-oriented programming. 7
- (b) Explain basic concepts of objects oriented programming. 8

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3. (a) What is friend function? What are the merits and demerits of using friend functions? Illustrate with example. 8
  - (b) When do we declare a member of a class static? Explain with example. Also write the properties of static members. 7
- Unit - II**
4. (a) Define inheritance? Explain various types of inheritance with example. 8
  - (b) What is the ambiguity in multiple and multipath inheritance? How is it resolved? 7
  5. (a) Explain dynamic initialization with new ( ) and delete ( ) function. 7
  - (b) Write a program to show the need of virtual base class. 8

**Unit - III**

6. (a) What is constructor? Explain various types of constructor with the help of program. 8
- (b) Explain virtual functions with example. 7
7. (a) Define operator overloading? What are the rules for overloading Operators? List the operators that cannot be overloaded using friend function and member function. 7

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- (b) Write a program to overload binary (+) operator using member function and friend function. 8

**Unit - IV**

8. (a) What is generic programming? How it is implemented in C++? Write a program for multiple parameterized class template: 8
- (b) Define exception handling. What are the benefits of using exception handling mechanism in a program? 7
9. (a) What are the benefits of using function template in C++? Illustrate with example. 7
- (b) WAP to handle multiple exceptions using single catch block. Also discuss the concept of returning an exception. 8

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