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B. Tech. 3rd Semester, (CSE-AI & MLE) (G-Scheme)
Examination, December-2023
OBJECT ORIENTED PROGRAMMING
Paper : PCC-CSE-208G

Time allowed : 3 hours] [Maximum marks : 75

Note : Question No. 1 is compulsory. Attempt **five** questions in total **one** from each Unit.

1. Write short note on the following - 6×2.5=15
   (a) Polymorphism
   (b) This pointer
   (c) Abstract class
   (d) Pure virtual functions
   (e) Access modifiers
   (f) Destructors

Unit-I

2. (a) Discuss different features of C++ in detail. (7)
   (b) How does object-oriented approach different from procedure-oriented approach? Explain with the help of suitable example. (8)
3. (a) What is the need of declaring a static member in a class? Write a program that illustrate the use of static function. (6)
   (b) Define friend function and its characteristics? WAP to swap two number using friend function, also write merits and demerits of friend function. (9)

Unit-II

4. (a) What is inheritance? Discuss different forms of inheritance with example. (9)

(b) Explain function overriding with the help of suitable example. (6)

5. (a) What is dynamic initialization. Discuss the benefits of dynamic memory allocation using new () and delete () function. (8)

(b) Discuss the use of virtual base class with suitable example. (7)

Unit-III

6. (a) What is constructor? Explain different types of constructor with example. (8)

(b) Run-time polymorphism is achieved with the help of virtual functions. Justify the statement with the help of suitable example. (7)

7. (a) Define operator overloading? WAP to overload Unary minus (–) operator using member function and friend function. (8)

(b) Explain type conversions in C++? WAP for basic type-to-class-type conversion. (7)

Unit-IV

8. (a) What is generic programming? How is it implemented in C++? Explain with example. (8)

(b) Discuss exception and its types? WAP to handle divide by Zero exception using try, catch and throw statements. (7)

9. (a) Explain class template and function template with example. (7)

(b) WAP to handle multiple exceptions using a single catch block. Also discuss the concept of rethrowing using functions. (8)