OBJECT ORIENTED PROGRAMMING USING C++-214
Semester-III

Time Allowed: Three Hours
[Maximum Marks: 75]

Note: Attempt one question each from Sections A, B, C, and D and the entire Section E. All questions carry equal weightage.

SECTION—A

1. Define and distinguish between the following:
   (a) Data abstraction and function abstraction
   (b) Encapsulation and data hiding. 2×7.5=15

2. (a) What are the different types of operators available in C++? Explain. 12
   (b) Distinguish between operator precedence and associativity. 3

3. Define and distinguish between arrays and pointers. 15

4. What do you mean by function overloading? How default parameters are used in function overloading? Explain giving example. 15

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[PTO]
SECTION—B

5. Write short notes on the following:
   (a) Class objects
   (b) Constant data members
   (c) Constant member functions
   (d) Static members
   (e) Friend functions. \[5 \times 3 = 15\]

6. How dynamic memory allocation is done in C++? Explain in detail giving suitable examples. \[15\]

7. (a) Define inheritance. What are the different types of inheritance? Explain. \[7.5\]
    (b) How ambiguity is resolved in hybrid inheritance? Explain giving example. \[7.5\]

8. How operator overloading is done using friend function? Explain giving example. \[15\]

SECTION—C

9. Attempt all questions in short:
   (a) Distinguish between implicit and explicit type conversion. \[3\]
   (b) Define inline functions. \[3\]
   (c) What is the role of ‘this’ pointer? \[3\]
   (d) What is the need of a virtual destructor? \[3\]
   (e) Which operators cannot be overloaded? \[3\]