1058

B.E. (Computer Science and Engineering)
Second Semester
CS-202: Object Oriented Programming

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

 a) What is copy constructor?

 b) What is operator overloading? List the operators that cannot be overloaded?

 c) What are the different forms of inheritance supported by C++?

 d) What are pure virtual functions? Why are they used?

 e) What are exceptions? How are they handled in C++? (5x2)

UNIT – I

II. a) What do you mean by object oriented programming? Describe in detail principle of object oriented programming.

 b) With the help of examples, describe in detail the concept of memory allocation for classes and objects. (5,5)

III. Create a class *Fraction* having two data members *numerator* and *denominator*. Provide appropriate constructors, destructors, and overloaded operators +, =, * for addition, checking equality, and multiplication of fractions. Use them in a program. (10)

IV. a) Write an object oriented program in C++ to generate a Fibonacci series of *n* numbers, where *n* is defined by a programmer.

 b) Which of the following statements are FALSE? Why? Answer **without explanation** will have no marks.

 i) A class must have at least one constructor.
 ii) A default constructor is a constructor with no parameters for its parameter list.
 iii) If there are no meaningful default values for a class, the class should not provide a default constructor.
 iv) If a class does not provide a default constructor explicitly, the compiler generates one automatically; initializing each data member to the default values of it associated type. (5,5)

UNIT – II

V. a) What is run-time polymorphism? How virtual functions can be used to implement it? Explain with an example.

b) What are generic functions? How are they defined? Write a C++ program to search a key in an integer array and a float array using generic linear search function.

(5,5)

VI. a) What do you mean by template? Distinguish between function template and class template.

b) Write a C++ program to copy the content of one file to another. (5,5)

VII. Write short notes on:-
a) Exception handling
b) Overloading of template functions (5,5)

x-x-x

Time all

NOTE:

I.

II.

III.

IV.