Sr.No.2960

2118

B.E.(I.T.) 3rd Semester

IT.314: Object Oriented Programming

Time allowed: 3 Hours   Max. Marks: 100

Note: Attempt five questions in all, selecting atleast
      two from each Part.

-.-.-

Part-I

I. a) How is object-oriented programming different from
      structured programming? Consider a suitable example to
      support your answer.

   b) Explain the various control structures available in C++
      with examples and diagrams.   (10,10)

II. a) What is an inline function? What are its advantages?
       Discuss two different ways to make a function inline.
       Can you make all functions inline? Justify your answer.

    b) Explain the concept of objects and classes in C++. How
       do you declare a class and an object in C++? Explain
       by means of suitable examples.   (10,10)

III.a) What is polymorphism? How is run-time polymorphism
       supported in C++? Explain with suitable example.

    b) What is function overloading? How does compiler resolve
       the invocation of the overloaded functions?   (10,10)

IV. Explain the following with examples in the context of
     C++:   (10,10)

     a) Constructors and destructors

     b) Garbage collection and dynamic memory allocation.

Part-II

V. a) Give the rules for different types of class derivation supported in C++. Give one example of multiple inheritance by developing a computer program in C++.

b) What is an abstract class? How is it implemented in C++? Explain with an example. (10, 10)

VI. a) What is exception halnding feature in C++? Write a suitable program to demonstrate the use of multiple catch handlers.

b) Explain the use of a friend class in C++ with the help of suitable example. (10, 10)

VII. a) What is genericity? How is it supported in C++? Design a template class to sort N elements.

b) Write a C++ program to duplicate a file. (10, 10)

VIII. Write short notes on :

a) Object-Oriented Analysis and Design (OOAD)

b) Concept of pointers and use of 'this' pointer. (10, 10)

****