1129
B. E. (Information Technology)
Third Semester
ITE-373/342/324: Object Oriented Programming Using C++

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)   Define data encapsulation in OOP.

     b)   Find error if any in the following C++ statement:

         enum (Sunday;Monday;Tuesday)

     c)   What are the tokens and expressions in C++?

     d)   Write four datatypes available in C++.

     e)   Define polymorphism.

     f)   What is Destructor?

     g)   Define Dynamic constructor.

     h)   Write a statement using *seekg()* to seek to 6 characters from beginning of the file.

     i)   Define Function templates.

     j)   Write syntax for Array of objects?   (10x1)

UNIT – I

II.   a) When will you make a function *inline?* Apply function overloading in a C++ program to calculate area of a square, rectangle and circle.

      b) Differentiate between Object oriented and Procedure-oriented programming?(5,5)

III.   a) Describe with an example, the uses of enumeration data types.

      b) What do you mean by dynamic initialization of a variable? Write an example. (5,5)

IV.   a) Write a C++ program to overload "+" operator and to add two objects of a class using friend function.

      b) Write a program in C++ to create a class called STRING and implement the following operations. Display the result after every operation.

         i) STRING Sl='UNI'

         ii) STRING S2 = 'VERSITY'

         iii) STRING S3 = S1+S2 (Use copy constructor).   (5,5)

UNIT – II

V. a) Write a program in C++ where class *student* stores the roll number, class *test* stores the marks obtained in two subjects and class *result* contains the total marks obtained in test. The class *result* can inherit the details of the marks obtained in the test and the roll number of students. Display the result as output.

b) Describe the syntax of multiple inheritance. In what order are the class constructors called when a derived class object is created? (5,5)

VI. a) Write a program to perform read and write operation on a file.

b) Can a pointer of base class type point to an object of the derived class? Explain with the help of an example program. (5,5)

VII. a) What is an algorithm in STL? How STL algorithms are different from the conventional algorithms?

b) Explain fountain model of object oriented software development. (5,5)

x-x-x