TED (15) – 3134

(REVISION – 2015)

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/ TECHNOLOGY — APRIL, 2017

OBJECT ORIENTED PROGRAMMING THROUGH C++

(Common for CT and CM)

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I   Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Name the header file that has to be included in the source file to use cout and cin.

2. Specify the primary goal of class.

3. Define destructor.

4. List the visibility controls.

5. Define dynamic binding.   (5 × 2=10)

PART — B

(Maximum marks : 30)

II Answer *any five* of the following questions. Each question carries 6 marks.

1. Illustrate the initialisation of one dimensional array and display the elements in the array.

2. Enumerate the keywords to specify the storage classes in C++.

3. Define class. Specify its components. Write an example of class.

4. Illustrate the use scope resolution operator and dot operator.

5. Mention the limitations of operator overloading.

6. Construct a base class **Student** with private member variables admission number (type int) and name (type string). The class also contains a member function to display the member variables. Derive a new class **Exam** contains three member variables to store mark of three subjects and a member function to find average mark. The **Exam** class should also has the member function to display the admission no, name and average mark.

7. Explain about function templates.   (5 × 6 = 30)

[55]   [P.T.O.

PART — C

(Maximum marks : 60)

(Answer *one full* question from each unit. Each full question carries 15 marks.)

UNIT — I

III   (a) Explain the basic data types and qualifiers in C++.   10

     (b) Name three stream classes commonly used for disk I/O. Write statement that will create an object sales of "**ofstream**" class associate with a file "**sales.dat**".   5

OR

IV   (a) List the looping statements and illustrate the working.   10

     (b) Define enumeration. Specify its use. Create an enumerated data type to store the days of a week.   5

UNIT — II

V   (a) Develop a class rectangle private with attributes length and width. Provide member functions that calculate the perimeter, the area of the rectangle and display the details.   9

     (b) Explain inline functions.   6

OR

VI   (a) Write the general form of function. Explain the different types of argument passing methods.   9

     (b) List the characteristics of constructors.   6

UNIT — III

VII   (a) Implement operator overloading for a unary operator.   9

     (b) "One of the main advantage of inheritance is code re-use". Justify.   6

OR

VIII   (a) Define inheritance. Explain the different types of inheritance.   9

     (b) Explain about overriding member functions.   6

UNIT — IV

IX   (a) Explain virtual function. State the need of virtual function.   9

     (b) Explain the term class templates.   6

OR

X   (a) Explain Exception handling in C++.   9

     (b) Explain the usage of several base classes.   6