

Total number of printed pages-3

53 (IT 401) OOPD

2017

**OBJECT ORIENTED PROGRAMMING  
AND DESIGN**

Paper : IT 401

Full Marks : 100

Time : Three hours

***The figures in the margin indicate  
full marks for the questions.***

Answer **any five** questions.

1. (a) What is the significance of scope resolution operator? 3
- (b) What is Virtual Base Class? When do you make it? 4
- (c) What is File Mode? Describe the various file mode options available. 6
- (d) What is generic programming? How is it implemented in C++? 7

Contd.

2. (a) What do you mean by exception handling? Describe the role of keywords try, throw and catch in exception handling. When do you use multiple catch handlers?

10

(b) Design a class having the constructor and destructor functions that should display the number of object being created or destroyed of this class type.

10

3. (a) What do you understand by function returning a pointer? Give *any* suitable example to support your answer.

10

(b) Write a C++ program to count the number of words and characters in a string.

10

4. (a) What do you mean by dynamic binding? How is it useful in OOP? Explain with example.

10

(b) Write a C++ program that declares an array of 50 elements of type double. Initialize the array so that first 25 elements are equal to the square of the index variable, and the last 25 elements are equal to three times the index variable. Output the array so that 10 elements are printed on each line.

10

5. Design a class to store a date in a program. Use a constructor with parameters so that the values of month, day, and year are checked before storing the date into the data members. Add a member function to check whether a year is a leap year.

20

6. Write short notes on :

20

(a) Abstract method

(b) Copy constructor

(c) Operator overloading

(d) Multiple inheritance.