

Roll No. ....

## BCA-301(O)

### B. C. A. (Third Semester) EXAMINATION, Dec., 2012

(Old Course)

Paper First

#### OBJECT ORIENTED DESIGN AND PROGRAMMING

*Time : Three Hours ]*

*[ Maximum Marks : 75*

**Note :** Section A is compulsory. Attempt *seven* questions out of ten from Section B and *one* question from Section C.

#### Section – A

(Numerical/Analytical/Problematic Questions)

1. What is Object Oriented Programming ? How is it different from the Procedure Oriented Programming ? 7
2. Distinguish between the following terms : 8
  - (i) Objects and Classes
  - (ii) Dynamic binding and message passing

#### Section – B

6 each

(Short Answer Type Questions)

3. List a few areas of application of OOP technology.
4. Describe the major parts of a C++ program.

5. Describe the memory management operators in C++.
6. What do you mean by overloading of a function ? When do we use this concept ?
7. How does a C++ structure differ from a C++ class ?
8. What is a friend function ? What are the merits and demerits using friend function ?
9. What is Constructors ? Explain its different types.
10. What are the different forms of inheritance ? Give an example for each.
11. How is polymorphism achieved at :
  - (i) compile time
  - (ii) run time ?
12. Differentiate between the following :
  - (i) Data abstraction and data encapsulation
  - (ii) Inheritance and polymorphism

**Section – C**

18

**(Long Answer Type Questions)**

13. What is operator overloading ? Write a program to overload a binary operator using friend function.
14. An electricity board charges the following rates to domestic users to discourage large consumption of energy :

For the first 100 units	— 60 P per unit
For the next 200 units	— 80 P per unit
Beyond 300 units	— 90 P per unit

[ 3 ]

All users are charged a minimum of ₹ 50.00. If the total amount is more than ₹ 300.00 then an additional surcharge of 15% is added.

Write a program to read the names of users and number of units consumed and print out the charges with names.