

BACHELOR IN COMPUTER APPLICATIONS (BCA)**Term-End Practical Examination**

01124

December, 2011**CS-72P : C++ AND OBJECT ORIENTED PROGRAMMING**

Time allowed : 2 hours

Maximum Marks : 100

(Weightage : 15%)

General Instructions :

- (i) There are *two compulsory* questions in this paper of **40** marks each. Rest **20** marks are for *viva-voce*.
- (ii) You must write the appropriate `main()` function and test your programs.
- (iii) Write/print the programs; input and results on your answer-script.
- (iv) Make and state suitable assumptions, if any.

1. Design and implement a class named "Real Num" using C++. The class represents a number using fractional mantissa and exponent, e.g. a number 2.34×10^2 will be represented as :

$$= 0.234 \times 10^3$$

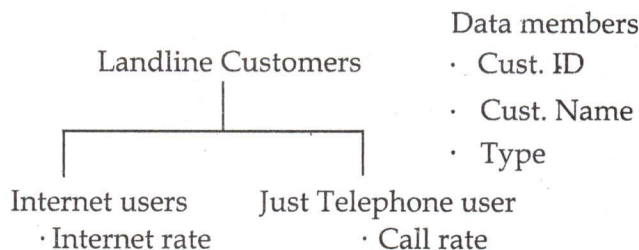
Mantissa = 234

Exponent = 3

The representation only stores positive real number.

Your design should include a constructor and an overloaded + operator that adds two such numbers. The class should also have a function to display the number.

2. Consider the following hierarchy along with suggested data members of the classes : **40**



Design and implement the classes in the hierarchy using C++. You may add more data members in the classes. You should include at least one constructor in each class. Also include a member function `print_cust_info()` in each class that prints all the information of the object of that class. You should demonstrate polymorphism using this `print_cust_info()` and appropriate `main ()` function.
