| CS-72 |

BACHELOR OF COMPUTER APPLICATIONS (PRE-REVISED)

Term-End Examination

December, 2013

CS-72 : C++ AND OBJECT ORIENTED PROGRAMMING

Time : 2 hours   *Maximum Marks : 60*

Note :   *Question number 1 is **compulsory**. Attempt **any three** questions from the rest. All examples must be in C++ programming language only.*

1. (a) Write functions in C++ to copy, to concatenate and to find length of strings without using library functions.   **6**

   (b) List five basic characteristics of object oriented programming.   **5**

   (c) What is Inheritance ? Describe single and multiple inheritance with the help of examples.   **5**

   (d) Differentiate between increment and decrement operator with the help of an example.   **4**

   (e) What are visual functions ? Explain with the help of an example.   **5**

   (f) Describe the concept of bit wise operators in C++ with the help of an example.   **5**

2. (a) What are Use Case Diagrams ? What are **6** the notations used in these diagrams ? Design a Use Case Diagram for the Admission Process in IGNOU.

   (b) Describe Abstraction in the context of object **4** oriented programming.

3. (a) Explain features and advantages of C++. **5**

   (b) What are Constructors and Destructors ? **5** What is their relevance and utility ? Explain with the help of an example.

4. Consider a class Reservation with data members **10** as Res-data, Res-no, Train - no, date-of-journey, no-of-passengers. Include member functions to accomplish the following :

   (a) Accept passenger details

   (b) Display passenger details

   (c) Display the details of reservation of a specific train.

   (d) Display details of all Reservations for a specific date.

5. (a) How are exceptions handled in C++ ? Write **6** code to raise an exception for division by zero and write suitable code to deal with the exception.

   (b) What are friend functions ? Write a **4** program that swaps two numbers using friend functions.