CS-72

BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Pre-Revised)
01972 **Term-End Examination**
December, 2016

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 program codes must be in C++ programming language only.*

1. (a) Consider a publishing company that markets both books and audio-cassettes version of its works. Create a class Publication that stores the title and price of a publication. From this class derive two classes :

   book which adds a page count and tape which adds a playing time in minutes. Each of these three classes should have a getdata( ) function to get its data from the user and putdata( ) function to display its data. Also, write a main( ) function that uses an array of pointers to publication. 8

   (b) What are the various loop control statements in C++ ? Explain them with the help of an example. 6

(c) Describe the features of C++. 5

(d) What is UML ? What are the benefits of UML for system designers ? List any four types of UML diagrams. 6

(e) What is the need of a Virtual Function ? Describe with the help of a suitable example. What is a Pure Virtual Function ? 5

2. Explain the following : 10

(a) Address of operator

(b) Macros

(c) Bitwise AND operator

(d) Size of operator

(e) Increment and Decrement operators

3. (a) Explain the copy constructor with the help of an example. 5

(b) What is inheritance ? What is multiple inheritance ? Explain with the help of an example. 5

4. (a) Write a program in C++ to add two complex numbers using binary operator overloading. 5

(b) What are static members and static member functions ? Explain with the help of an example. 5

5. (a) Describe templates and their uses in C++ with the help of examples. 6

(b) What is an Inline function ? In which situations do we make a function inline ? Give two examples of inline functions. 4