

**BACHELOR OF COMPUTER
APPLICATIONS (PRE-REVISED)****Term-End Examination****December, 2012****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) Imagine a publishing company that markets both books and audio-cassettes version of their work. Create a class Publication that stores the title(string) and price (float) of a publication. From this class derive two classes : Book which adds a pagecount (int); and Tape which adds playing time in minutes(float). Each of the three classes should have a function to accept data from the user and a function to display data to the user. 8

Write a main program to test the book and tape classes by creating instances of them, asking user to fill in data and then displaying the data.

- (b) Explain the differences between inline functions and macros in C++, giving examples of each. 5
- (c) Explain how objects are initialized. Give examples using C++ 5
- (d) What is object oriented programming ? Explain any five characteristics of object oriented programming languages. 6
- (e) Define Inheritance. Explain single Inheritance and multiple inheritance with the help of examples. 6
2. (a) Write a program in C++ to overload the + = operator to allow the following operation on strings.
S1 + = S2 where S2 is concatenated to S1 and the result is stored in S1. 5
- (b) What is function overloading ? How is it implemented ? Illustrate it with the help of an example. 5
3. Differentiate between the following with examples : 10
- (a) constructors and destructors
- (b) call-by-value and call-by-reference
- (c) do-while and while loops
- (d) structures and classes

4. (a) What is dynamic binding ? Explain it with the help of an example. 4
- (b) What are virtual functions and pure virtual functions ? Explain their utility with the help of an example. 6
5. (a) What are friend functions ? How do they act as bridges between two classes ? Explain with the help of an example. 6
- (b) Explain this pointer with an example. 4
-