

BACHELOR IN COMPUTER APPLICATIONS (BCA)**Term-End Practical Examination****December, 2007****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 linked list. Write a C++ method that inserts an element after k^{th} element in a linked list. If there are less than k elements in the list then insert at the last. Each node in link list should have two fields : 40

- Data field having integer or character value.
- Pointer field having pointer to the next node.

2. A university has three types of students — hostellers, day_scholars and distance_learners. The hostellers stay in a hostel but pay hostel rent along with the fee, the day_scholars and distance_learners pay only the fee. The hostellers and day_scholars can register for one programme however distance_learners can register for maximum three programmes. 40

Note : The fee of one programme is different from others. Make suitable assumptions, if necessary.

- Design and implement suitable class hierarchies for student class.
- Write necessary constructors and write the polymorphic function for printing the total payment due for a student.
- Write appropriate functions for the above design.

