

**BACHELOR OF COMPUTER APPLICATIONS  
(BCA) (Pre-Revised)**

**Term-End Examination**

**December, 2015**

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**CS-72 : C++ AND OBJECT ORIENTED  
PROGRAMMING**

*Time : 2 hours*

*Maximum Marks : 60*

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

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1. (a) What are the advantages of object oriented programming ? Write any two applications of it. 5
- (b) What is Polymorphism ? What are the different ways to implement polymorphism in C++ ? 5
- (c) Create a class library for a book containing data members as Accession\_number, Name\_of\_author, Title\_of\_book, Year\_of\_publication, Publishers\_name, Cost\_of\_book and No\_of\_copies. Design the following methods : 10
  - (i) Display the information of books.
  - (ii) Insert information of a new book.
  - (iii) Delete information about a book.
  - (iv) Search for a book.

- (d) What is UML ? Discuss its goals. 5
- (e) List the merits and demerits of single inheritance over multiple inheritance. 5
2. (a) Differentiate between early binding and late binding. 5
- (b) Write a program in C++ using operator overloading to add two complex numbers. 5
3. (a) Write five features of Python language. 5
- (b) Discuss the scope resolution operator with the help of an example. 5
4. (a) Explain increment, decrement, sizeof and Bitwise operators of C++. 5
- (b) Differentiate between sequence and collaboration diagrams in UML ? 5
5. Explain the following with the help of an example for each :  $4 \times 2 \frac{1}{2} = 10$
- (a) Virtual Functions
- (b) Derived Class
- (c) Streams
- (d) Templates
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