

(Please write your Exam Roll No.)

Exam Roll No. ....

# END TERM EXAMINATION

THIRD SEMESTER [BCA] NOVEMBER-DECEMBER 2018

Paper Code: BCA-209 Subject: Object Oriented Programming Using C++

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions including Q.No1 which is compulsory.  
Select one question from each unit.

- Q1 Answer the following:- (10x2.5=25)
- Explain data hiding and encapsulation with an example.
  - Compare the features of C and C++.
  - Explain the features of macros and inline functions.
  - Give the syntax of defining a class.
  - Explain various types of inheritance.
  - Compare the features of early binding and late binding.
  - Explain virtual base class with an illustration.
  - Explain the features of generic programming.
  - Explain namespace. Give an example.
  - Explain various types of exceptions.

## UNIT-I

- Q2
- Compare the feature of structured programming language and object oriented programming language. (4)
  - Explain the features of inheritance and exception handling used in object oriented programming languages. (4.5)
  - Explain the features of C++ environment: (4)
    - C++ Compilers
    - Testing a C++ program

## OR

- Q3
- Write a C++ program to illustrate the use of new () and delete () operators. (4.5)
  - Explain various types of polymorphism. (4)
  - Mention any four standard libraries used in C++. (4)

## UNIT-II

- Q4
- Write a C++ program to illustrate the default constructor, parametric constructor and copy constructor. (4.5)
  - Explain the role of friend functions in C++. (3.5)
  - Explain the following:- (4.5)
    - Abstract class and meta class
    - Data members and member functions
    - This pointer

## OR

- Q5
- Explain function overloading with an example. (4)
  - Explain the role of constructors and destructors in C++. (3.5)
  - Write a C++ program to illustrate the following:- (5)
    - Call by value
    - Call by reference

## UNIT-III

- Q6
- Write a C++ program to illustrate the following: (i) overloading of member functions and (ii) overriding of member functions. (6)
  - Write a C++ program to illustrate virtual functions. (4.5)
  - Give an example to illustrate aggregation and composition. (4)

## OR

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- Q7 (a) Explain the access mechanism of public, private and protected related to inheritance. (4.5)  
(b) Explain how to resolve ambiguity in multiple inheritances with an example. (3)  
(c) Write a C++ program to illustrate the following:- (5)  
i. Overload binary operator  
ii. Overload unary operator

**UNIT-IV**

- Q8 (a) Write a C++ program to illustrate the following stream functions: is\_open (), get() and put(). (5)  
(b) Write a C++ program to illustrate overloading of template functions. (4)  
(c) Explain the features of persistent objects. Give an example. (3.5)

**OR**

- Q9 (a) Give the syntax of write () and read () functions using in file streams. (4)  
(b) Explain the template functions with an example. (4)  
(c) Write a C++ program to illustrate try, throw and catch statements. (4.5)

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