(Please write your Exam Roll No.) *Exam Roll No. .....*

END TERM EXAMINATION

THIRD SEMESTER [BCA] NOVEMBER - DECEMBER 2017

Paper Code: BCA-209 ***Subject: Object Oriented Programming Using C++***
(Batch 2011 onwards)

Time: 3 Hours ***Maximum Marks: 75***

Note: Attempt any five questions including Q. no.1 which is compulsory. Select one question from each unit.

Q1 (a) What are enumeration variables? How are they declared? Explain. **(2.5)**
(b) What is Dynamic memory allocation? How does it help in building complex programs? **(2.5)**
(c) How does an inline function differ from a preprocessor macro? **(2.5)**
(d) "A class is a way to accomplish data hiding." Comment with a suitable example. **(2.5)**
(e) What are namespaces? List out some of the advantages of namespaces. **(2.5)**
(f) Discuss two methods of opening a file during file handling in C++. **(2.5)**
(g) What are nameless objects? **(2.5)**
(h) Is it possible to define member functions in private section of the class? Illustrate how one can use these functions with a suitable example. **(2.5)**
(i) Distinguish between composition and classification hierarchies. **(2.5)**
(j) Define Generic class. Illustrate with example. **(2.5)**

UNIT-I

Q2 (a) What do you mean by Dynamic Memory Allocation? How can we achieve in C++? Illustrate with an example program. **(6.5)**
(b) Can a programmer use free( ) pointers allocated with new operator? Can he delete pointers allocated malloc( )? Explain briefly. **(3)**
(c) How does the 'const' differ in C++ from C. Explain with a brief example? **(3)**

Q3 (a) What is Procedure Oriented Programming? How is it different from Object Oriented Programming? **(4.5)**
(b) Explain Reference variable with a suitable example. What is the principle reason of passing arguments by Reference? Differentiate between passing arguments by using pointer variables and reference variable. Explain with C++ program. **(6)**
(c) Explain the advantages of Function Prototyping with example. **(2)**

UNIT-II

Q4 (a) What is the difference between member function defined inside and outside the body of a class? How inline member functions defined outside the body of a class? Explain with example. **(4.5)**
(b) Explain the concept of overloaded constructors with a suitable example. **(5)**
(c) Write a short note on Array of objects with example. **(3)**

Q5 (a) Write a program to illustrate the concept of object as an argument and returning objects. **(6)**
(b) What is this pointer? What happens on the statement: delete this; in a class. Write a program to illustrate the use of this pointer. **(3.5)**
(c) Write a short note on copy construction with suitable example. **(3)**

UNIT-III

Q6 (a) Explain the concept of nested class with suitable example. **(5)**

(b) Write a C++ program to overload "==" (equals to) operator to compare two strings. **(5)**

(c) Differentiate between static and dynamic binding. **(2.5)**

Q7 (a) Explain parametric polymorphism with an example code. **(4)**

(b) Discuss the concept of virtual function. Take a suitable example to demonstrate the behavior of virtual function. **(5)**

(c) Discuss ambiguity resolution in multiple inheritance. **(3.5)**

UNIT-IV

Q8 (a) Distinguish between Overloaded function and function template. Explain with the help of an example. **(6)**

(b) Write a C++ program to count the number of characters and digits in a file. This file have first to be created by the user only. **(6.5)**

Q9 (a) Explain the working of seekg( ), seekp( ), tellg( ), tellp( ), read( ), writer ( ) functions in stream classes. **(6)**

(b) Explain the concept of persistent object. **(2.5)**

(c) Explain the try/catch structure in C++ and its variants from the exception handing. **(4)**

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