

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)

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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)
