

**BACHELOR OF COMPUTER APPLICATIONS
(Revised)**

Term-End Examination

June, 2014

BCS-031 : PROGRAMMING IN C++

Time : 3 hours

Maximum Marks : 100

(Weightage 75%)

Note : *Question number 1 is compulsory and carries 40 marks.
Attempt any three questions from the rest.*

1. (a) Explain the basic characteristics of object oriented languages. How is object oriented programming language better than structured programming language ? 8
- (b) What do you mean by copy constructor ? Explain it with a suitable C++ program. 6
- (c) What is meant by comparison and logical operators ? How are they different from the arithmetic and assignment operators, explain with the help of an example. 8
- (d) Explain function template with the help of an example. 6
- (e) What is looping in C++ ? What are the advantages of using loops in C++ ? Also list the various looping options available in C++. 6
- (f) What is a structure in C++, and how a structure is different from a class ? Explain with example. 6

2. (a) What is exception handling ? What are the keywords used to handle the exception in C++ ? Write a C++ program to handle divide by zero exception. 10
- (b) Write a program in C++ using operator template for the binary numbers to perform a simple arithmetic operations such as add and subtract. 10
3. (a) Write a program in C++ that prints numbers and its cubes from 1 to 10 by using if-then-else and for loop. 10
- (b) Explain the use of *continue* statement in C++, with example. 5
- (c) Explain how setting of field width and setting of precision may be done in C++. 5
4. (a) Write a C++ program to create vehicle class and derive Car, Truck and Bike classes from the Vehicle class. Also define proper constructors for each of these classes. 10
- (b) Explain the concept of virtual function with the help of an example. 5
- (c) What are access control specifiers ? Explain difference between private and public access control specifiers. 5
5. Write short note on the following : 4x5=20
- (a) Encapsulation
- (b) Message Passing
- (c) Function Overloading
- (d) File pointers and operations.
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