

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

Term-End Examination

June, 2016.

03526

BCS-031 : PROGRAMMING IN C++

Time : 3 hours

Maximum Marks : 100

(Weightage : 75%)

Note : Question no. 1 is compulsory and carries 40 marks.

Attempt any three questions from the rest.

1. (a) What is Software Re-usability ? Explain in the context of C++ with an example. 5
- (b) Define visibility of a class member. Why are different types of visibility modes needed in derivation of a derived class ? 5
- (c) Explain C++ streams and stream classes with an example. 5
- (d) List the C++ operators that cannot be overloaded. Give reasons for any two of these explaining why they cannot be overloaded. 5

- (e) Explain file pointers and operations. Write a C++ program which demonstrates the use of `put()` – `get()` and `read()` – `write()`. 10
- (f) Differentiate between information hiding and encapsulation. 5
- (g) What do you mean by global variable and local variable in C++ ? Distinguish with an example. 5
2. (a) Write a C++ program to demonstrate break and continue statement. 10
- (b) Write a C++ program which explains user-defined stream manipulators. 10
3. (a) Distinguish between class templates and function templates, through an example. 10
- (b) Write an interactive C++ program which reads two integer numbers x and y , and an operator. It then performs the following operations :
- (i) $x + y$
 - (ii) $x - y$
 - (iii) $x * y$
 - (iv) x / y
- If any other operator is entered, the program prints out an error message. 10

4. (a) What are base and derived classes ? Create a base class called Stack and a derived class called Mystack. Write an interactive C++ program to show the operations of a stack. 10
- (b) Define Polymorphism. Explain various types of polymorphism with examples. 10
5. (a) Write a C++ program which explains the usage of Try, Throw and Catch. 10
- (b) Write a C++ program for finding the difference between two times that are given in 24 hour format. So "19:00:00" - "3:30:00" = 15:30:00, while "09:00:00" - "13:30:00" = "19:30:00". 10
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