

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

Term-End Examination,

December 2019

**BCS-031 : PROGRAMMING IN C++**

Time : 3 Hours]

[Maximum Marks : 100

(Weightage : 75%)

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- Note : (i) Question No. 1 is compulsory and carries 40 marks.  
(ii) Attempt any three questions from the rest.
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1. a) Explain the use of 'Break' and 'Continue' statement in C++, with example program. 5
- b) What are Access control specifiers? Explain various types of access control specifiers. 5
- c) What is 'Copy constructor'? Explain it with the help of a suitable C++ program. 5
- d) Explain the concept of Friend function with suitable example code in C++. 5
- e) Compare while ( ) and do-while( ) looping constructs with the help of suitable example for each. 5
- f) Write a program in C++, to find the largest of given three numbers by using a member function defined in a class. 5
- g) What is Object initialization? Why it is required, explain with the help of an example. 5
- h) Explain the usage of single inheritance and multiple inheritance. 5

2. a) What is a Class template? How it is different from function template? Give example for each. 8
- b) What are Inline functions? Discuss their importance in programming. Write an example program in C++ to clarify the concept of Inline functions. 8
- c) What is Polymorphism? Give three advantages of polymorphism. 4
3. a) Discuss the role of virtual functions in inheritance. What happens if we don't use virtual functions in inheritance? Give suitable example in support of your discussion. 10
- b) What are File stream operations? Write a program in C++ to demonstrate the file reading and writing operations. 10
4. a) Explain the concept of parameter passing using call by value and call by reference with suitable examples. 8
- b) Compare Run time polymorphism and Compile time polymorphism. Give suitable example of each. 8
- c) What is destructor? Explain its use in C++ with the help of an example. 4
5. Write short notes on the following: 4×5=20
- a) Code Reusability
- b) 'this' pointer
- c) Containers and its types in C++
- d) Stream manipulators

