

**BCA-08****Object Oriented Programming Through C++**

Bachelor of Computer Application

(BCA-11/16/17)

Third Semester, Examination, 2018

**Time : 3 Hours****Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

**Section-A****(Long Answer Type Questions)**

**Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Can we have more than one constructor in a class ? If yes, explain the need for such a situation. How do we invoke a constructor function ?
2. What does inheritance mean in C++ ? If Class D is derived from class B. The class D does not contain any data members of its own. Does the class D require constructors ? If yes, why ?

3. What is friend function and when is it compulsory ?  
Give an example.
4. List a few areas of application of OOP technology.  
How does object-oriented approach differ from object-based approach ?

### Section–B

#### (Short Answer Type Questions)

**Note :** Section ‘B’ contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. How does a main( ) function in C++ differ from main( ) in C ?
2. What do you mean by dynamic initialization of a variable ? Give an example.
3. Write a function to read a matrix of size  $m \times n$  from the keyboard and display the same on the screen using functions.
4. What is a class ? How does it accomplish data hiding ?
5. What is a parameterized constructor ?
6. Why is it necessary to overload an operator ?
7. What is virtual base class ?
8. What does polymorphism mean in C++ language ?

### Section–C

#### (Objective Type Questions)

**Note :** Section ‘C’ contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

1. You can use C++ as a procedural, as well as an object-oriented, language.
  - (a) True
  - (b) False

2. Default catch block catches :
  - (a) all thrown objects
  - (b) no thrown objects
  - (c) any thrown object that has not been caught by an earlier catch block
  - (d) all thrown objects that have been caught by an earlier catch block
3. The use of the break statement in a switch statement is :
  - (a) optional
  - (b) compulsory
  - (c) not allowed. It gives an error message
  - (d) to check an error
4. A function that changes the state of the cout object is called a(n) ..... .
  - (a) member
  - (b) adjuster
  - (c) manipulator
  - (d) operator
5. When the compiler cannot differentiate between two overloaded constructors, they are called :
  - (a) overloaded
  - (b) destructed
  - (c) ambiguous
  - (d) dubious

6. To be called object-oriented, a programming language must allow :
  - (a) functions that return only a single value
  - (b) #include files
  - (c) inheritance
  - (d) All of the above
7. A function that returns no values to the program that calls it is :
  - (a) not allowed in C++
  - (b) type void
  - (c) type empty
  - (d) type barren
8. The #ifndef directive tests to see whether ..... .
  - (a) a class has been defined
  - (b) a variable has been given a value
  - (c) a class has no variable definitions
  - (d) any objects of the class have been instantiated
9. Which of the following statements is false ?
  - (a) A function is a block of code that performs a specific task.
  - (b) Functions allow programmers to use existing code to perform common tasks.
  - (c) Functions can be called, or invoked, only once in a program.
  - (d) Programmer-defined functions can be either value-returning or void.

10. If you create an instantiation of a class template with an int and then create a second instantiation with a double, then :
- (a) you must precede each function call with the word int or double
  - (b) once a function is used as one type, it becomes unavailable for use with the other type
  - (c) there is no difference in the procedure to call a member function
  - (d) you cannot perform this operation in C++

