BCS-031

BACHELOR OR COMPUTER

APPLIATIONS (BCA) (REVISED)

Term-End Examination

June, 2020

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) Explain, how structured programming paradigm is different from object oriented paradigm. 5

(b) What is encapsulation ? How is it different from information hiding ? Explain with the help of an example.   5

(c) Explain the concept of copy constructor with the help of an example and program.5

(d) What is access control specifier ? Explain public access control specifier with example.   4

(e) Explain, how memory management is performed in C++.   5

(f) What is a stream manipulator ? Explain the use of setw( ) and setprecision( ) as stream manipulator.   6

(g) What is operator overloading ? Briefly discuss the general rules of operator overloading.   6

(h) What is scope resolution operator ? Explain its use with the help of a C++ program.   4

2. (a) What is a container in C++ ? List main types of container in C++. Also list some common member functions of container class. 10

(b) What is static member in C++ ? Explain the use of static data member and static member function with the help of an example and program in C++. 10

3. (a) What do you mean by polymorphism ? How is runtime polymorphism different from compile time polymorphism ? Give example(s) to support the above difference.

10

(b) What is a virtual function ? How virtual function relates to inheritance ? What happens if we don't use the virtual function in the inheritance ? Explain with the help of an example and program. 10

4. (a) What is message passing ? Demonstrate the utility of message passing with the help of an example code in C++.   8

    (b) Write a program in C++ to add two 3 × 3 matrices. Define proper class, constructor, destructor and methods in the program. 12

5. (a) Write a program in C++ to open an existing file and insert the text "My C++ file" at the end of it. Incorporate suitable comments, to improve the code readability.   10

    (b) What is a friend function ? Explain *two* merits and *two* demerits of using friend functions, with the help of an example.   10