

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

Term-End Examination

June, 2021

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) Compare Structured programming with Object-oriented programming. Give two advantages of both. 5
- (b) What are Inline Functions ? How does the execution of inline functions differ from normal functions ? Give the advantages of inline functions. 5
- (c) Explain passing of objects as argument to a function with the help of an example. 5
- (d) What is a Friend Function ? Briefly discuss the properties of a friend function. 5
- (e) How does Constructor differ from Automatic Initialization ? Briefly discuss the term Copy Constructor. 5

- (f) What is Function Overloading ? How are function calls matched with overloaded functions ? Explain with the help of an example. 5
- (g) Compare Early Binding and Late Binding. Explain when to use which type of binding. 5
- (h) What are Exceptions in C++ ? How is exception handling done in C++ ? Briefly discuss the functioning of Try, Throw and Catch expressions with suitable block diagram. 5
2. (a) Briefly discuss the term Message Passing. How does message passing support the concept of interfaces in C++ ? 5
- (b) Differentiate between C and C++, give at least five differences. 5
- (c) What is Type Conversion ? What is the advantage of Type Conversion ? Briefly discuss Type Casting and Automatic Type Conversion. 5
- (d) Compare Break and Continue statement. Exhibit the usage of break and continue statement with suitable code in C++. 5

3. (a) What is a Static Member Function ? Write a program in C++ to illustrate the concept of the static member function. 5
- (b) What is a Destructor in C++ ? Discuss the naming conventions of destructor. Do constructors and destructors have return type ? 5
- (c) What is Access Specifier ? Explain different access specifiers in C++. 5
- (d) Explain the use of '&&' and '!' operators in C++ with the help of an example. 5
4. (a) What is Inheritance ? What are the advantages of inheritance ? Explain with the help of example. 5
- (b) Compare Multi-level and Multiple inheritance in C++ with the help of an example. 5
- (c) What are the limitations of Operator overloading and Function overloading. 5
- (d) Compare Compile-time Polymorphism with Run-time Polymorphism. 5
5. (a) What are Stream Manipulators ? Briefly discuss the purpose of various stream manipulators. 5

- (b) Compare Class templates and Function templates with the help of example code. 5
- (c) Write short notes on the following : 10
- (i) Default and Parameterized Constructor
 - (ii) Virtual Functions and their limitations
-