C++ Programming

Course Description

1. Introduction to C++ Programming:
- What is C++ Language
- Why C++ Language
- Future in C++ Language

2. Setting up and Installing Software:
- Prerequisite in C++ Language
- Installation of software(IDE)

3. Data Type, Constants & Variables:
- What is Data Types in C++ Language with practical
- Integers, long and short in C++ Language with practical
- Integers, signed and unsigned in C++ Language with practical
- Chars, signed and unsigned in C++ Language with practical
- Floats and Doubles in C++ Language with practical
- Constants in C++ with practical
- Variables in C++ with practical
- Keywords in C++ with practical
- How to get input from user with practical
- How to display output to user with practical

4. Operators & Enums:
- Operations On Bits in C++ Language with practical
- Bitwise Operators with practical
- One's Complement Operator with practical
- Right Shift Operator with practical
- Left Shift Operator with practical
- Bitwise AND Operator with practical
- Bitwise OR Operator with practical
- Bitwise XOR Operator with practical
- Enumerated Data Type with practical
- Uses of Enumerated Data Type with practical

5. Control Statement:
- IF-Else Statement in C++ Language with practical
- for Loop in C++ Language with practical

- While Loop in C++ Language with practical
- Do-While Loop in C++ Language with practical
- Break in C++ Language with practical
- Continue in C++ Language with practical
- Switch in C++ Language with practical

6. Function:
- What is a Function in C++ Language with practical
- Passing Values between Functions in C++ Language with practical
- Call by Value in C++ Language with practical
- Call by Reference in C++ Language with practical

7. Classes and Objects:
- What is class
- Class members
- Types of Members
- What is object
- How to create object
- Difference ways to create an object
- Constructor
- Copy constructor
- Destructor
- Friend function

8. Inheritance:
- What is inheritance
- Types of inheritance

9. Polymorphism:
- Overloading
- Overriding
- Different types on polymorphism
- Virtual function

10. Abstraction:
- Interfaces
- Data abstraction

11. Namespaces:

- What is namespace
- How to use
- Different types of namespace

12. Exception:
- What is an exception
- How to handle exception
- Different types of exception

13. File Operations:
- File Input/Output in C++ Language with practical
- File Operations in C++ Language with practical
- Opening a File in C++ Language with practical
- Reading from a File in C++ Language with practical
- Closing the File in C++ Language with practical
- Counting Characters, Tabs, Spaces, with practical
- A File-copy Program in C++ Language
- Writing to a File in C++ Language with practical
- File Opening Modes
- String (line) I/O in Files

14. C++ STL:
- List
- Set
- Map