



(A Venture of Chandigarh ETC Services Pvt. Ltd.)

An ISO 9001:2015 Certified Organisation with Completely Online Management System

Website : www.citcchandigarh.com

Course Syllabus: Language C++

Batch Name: Language C++

Eligibility: 10th

Course Start: 1st of Every Month

Course Duration: 30Hours

Courses / Modules Paper

Papers 1
Language C++

Module 1:

1: Introduction of C++

- 1.1 History
- 1.2 Why Java language
- 1.3 Getting started with C++
- 1.4 Writing first program: hello world
- 1.5 Algorithm and flowchart
- 1.6 Understanding the structure and syntax of C++
- 1.7 C++ programming style

2: Principle of OOP

- 2.1 Introduction to OOP
- 2.2 OOP vs Procedural oriented programming
- 2.3 objects
- 2.4 Classes
- 2.5 Encapsulation
- 2.6 Abstraction
- 2.7 Polymorphism
- 2.8 Inheritance
- 2.9 Applications of OOP

3: Operators in C++

- 3.1 Introduction to operators
- 3.2 Special operators
- 3.3 scope resolution operator
- 3.4 Member dereferencing operator
- 3.5 Memory management operator
- 3.6 Manipulators and Typecast operator

4: variables and Functions in C++

- 4.1 Introduction
- 4.2 Functions
 - Devlaration
 - Definition
- 4.3 Variables
 - Declaration
 - Scope of variables
- 4.4 Arrays and Strings

5: Classes and Objects

- 5.1 Introduction
- 5.2 Declaring a Class
 - Data members
 - Member function
 - Private and public members
 - Accessing member functions
- 5.3 Functions
 - Class function definition

- Member function definition
- 5.4 Objects
 - Creating an object
 - Accessing members using objects
- 5.5 Object as a function argument
 - Pass by value
 - Pass by reference

6: Operator Overloading

- 6.1 Introduction
- 6.2 Operator Overloading Methods
- 5.3 Type Conversion

7: Constructors in C++

- 7.1 Introduction
- 7.2 Declaration of Constructor
- 7.3 Definition of Constructor
- 7.4 Types of Constructor
 - Default Constructor
 - Parameterized Constructor
 - Copy Constructor
- 7.5 Destructor
 - Definition
 - Use of Destructor

8: Inheritance

- 8.1 Introduction
- 8.2 Base Class and Derived Class
- 8.3 Visibility Mode
 - Private
 - Public
 - Protected
- 8.4 Types of Inheritance
 - Single inheritance
 - Multilevel inheritance
 - Multiple Inheritance
 - Hierarchal Inheritance
 - Hybrid inheritance
- 8.5 Nesting of Classes

9: Polymorphism

- 9.1 Introduction
- 9.2 Application and Demonstration
- 9.3 Early Binding
- 9.4 Polymorphism with pointers
- 9.5 Early Binding
- 9.6 Late Binding
- 1.7 Virtual Functions
- 9.8 Pure Virtual Functions

10: Exception Handling

- 10.1 Introduction
- 10.2 Exception handling mechanism
 - Throw an Exception
 - Catch an Exception
 - Rethrow an Exception

11: Input and Output in C++

- 11.1 Introduction
- 11.2 Standard Streams
- 11.3 Manipulators
- 11.4 Unformatted Input
- 11.5 Unformatted Output

12: File Processing

- 12.1 Introduction
- 12.2 Opening and Closing of file
- 12.3 Binary File Operations
- 12.4 Structures and file operations
- 12.4 Classes and File operations
- 12.5 Random File Processing