

#### SYLLABUS FOR C & C++

#### Programming in 'C'

# **CHAPTER - 1 Introduction of Programming Languages**

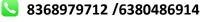
- 1.1 Types of Languages
- 1.2 Evolution of 'C' Language
- 1.3 Structure of a 'C' Program
- 1.4 'C' Program development life cycle
- 1.5 Executing and Debugging a 'C' Program

#### CHAPTER - 2 'C' Tokens

- 2.1 Keywords and Identifiers
- 2.2 Operators
- 2.3 Constants
- 2.4 Variables
- 2.5 Data Types
- 2.6 Precedence of Operators
- 2.7 Scope and Lifetime of Variables

# CHAPTER – 3 Control Statement and Expressions

3.1 Decision Making using if statement



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(Only Coding)



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- 3.2 Types of if ...else block
- 3.3 Switch case Block
- 3.4 Arithmetic Expressions
- 3.5 Evaluation of Expressions
- 3.6 GOTO statement

#### **CHAPTER – 4 Looping**

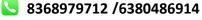
- 4.1 Concept of Loop
- 4.2 For loop 4.3 While loop
- 4.4 Do while loop
- 4.5 Jumping in Loop
- 4.6 break and continue statement

## **CHAPTER – 5 Arrays and String**

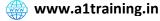
- 5.1 Introduction of Array
- 5.2 One D Array
- 5.3 Two D Array
- 5.4 Multidimensional Array
- 5.5 Dynamic Arrays
- 5.6 Implementing String Variables
- 5.7 String handling Functions

#### **CHAPTER – 6 Functions**

- 6.1 Concept of Function
- 6.2 User defined Function



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- 6.3 System Defined Function
- 6.4 Types of parameter passing in function

#### **CHAPTER – 7 Pointers**

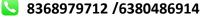
- 7.1 Need of Pointers
- 7.2 Types of Pointers
- 7.3 Pointer Expression
- 7.4 Arrays of Pointers
- 7.5 Pointers and Functions

### **CHAPTER - 8 Structure and Unions**

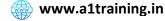
- 8.1 Need of Structure
- 8.2 Implementing Structure Variable
- 8.3 Arrays of Structure
- 8.4 Structure within Structure
- 8.5 Introduction of Unions
- 8.6 Difference between Structure and Unions

### **CHAPTER – 9 File Handling using 'C'**

- 9.1 Opening and Closing File
- 9.2 Input / Output operations on File
- 9.3 Random Access to Files
- 9.4 Command Line Arguments



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#### **CHAPTER - 10 Dynamic Memory Allocation**

- 10.1 Concept of Dynamic Allocation
- 10.2 Implementing Malloc and Calloc Functions
- 10.3 Releasing the free space

# **CHAPTER - 11 Storage Classes and Preprocessor**

- 11.1 Introduction of Storage Class
- 11.2 Types of Storage Classes
- 11.3 Introduction of Pre-processor
- 11.4 Macro Substitution
- 11.5 File Inclusion Programming in 'C++'

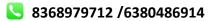
## **CHAPTER - 12 Introduction to Object Oriented**

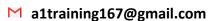
**Programming** 

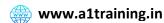
- 12.1 Concept of OOP (Only Coding)
- 12.2 Features of OOP
- 12.3 Introduction of 'C++'
- 12.4 Structure of 'C++' program
- 12.5 Executing and Debugging a 'C++' Program

### CHAPTER - 13 'C++' Tokens and Type Casting

- 13.1 Keywords and Identifiers
- 13.2 Operators
- 13.3 Constants







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- 13.4 Variables
- 13.5 Data Types
- 13.6 Precedence of Operators
- 13.7 Scope and Lifetime of Variables

#### **CHAPTER – 14 Classes & Objects**

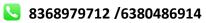
- 14.1 Classes & Object Specifier
- 14.2 Defining data members and member functions
- 14.3 Array of objects
- 14.4 Managing console I/O
- 14.5 'C++' stream classes
- 14.6 Formatted and unformatted console I/O
- 14.7 Usage of manipulators

#### CHAPTER - 15 Function in 'C++'

- 15.1 Call by reference, Return by reference
- 15.2 Function overloading and default arguments
- 15.3 Inline function
- 15.4 Static class members
- 15.5 Friend functions
- 15.6 Virtual Functions

#### **CHAPTER - 16 Constructors and Destructor**

- 16.1 Concept of Constructor
- 16.2 Types of Constructors



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- 16.3 Memory allocation (new and delete)
- 16.4 Usage of destructor

#### **CHAPTER - 17 Operator Overloading**

- 17.1 Overloading Unary and Binary operators
- 17.2 Overloading using friend function

#### CHAPTER – 18 Inheritance

- 18.1 Types of inheritance
- 18.2 Virtual base classes and abstract base classes
- 18.3 Constructor and destructor in derived class

### **CHAPTER - 19 Working with files**

- 19.1 File operations
- 19.2 File pointer and their manipulation
- 19.3 File updation with random access

#### **CHAPTER – 20 Exception Handling**

- 20.1 Various Exception Handling classes
- 20.2 Implementing try and catch block
- 20.3 Use of throw keyword

