

# FUNDAMENTALS OF C++

## Week - 1 Module

**Lec -1** = Introduction to C++ Basics  
**Lec - 2** = Understanding OOPs in C++

## Week - 2 Module

**Lec -3** = C++ Program Structure and Input/Output  
**Practical - 1** = Practising I/O in C++

## Week - 3 Module

**Lec -4** = Essentials of C++ Syntax  
**Lec - 5** = Variables and Datatypes in C++

## Week - 4 Module

**Lec -6** = Working with Datatypes and Operators in C++  
**Practical - 2** = Learn to use Compiler, First C Program

## Week - 5 Module

**Lec -7** = Fundamentals of C++ Programming  
**Lec - 8** = Comparing Datatypes in C and C++

## Week - 6 Module

**Lec -9** = C++ Programming Examples: Circle Area and Simple Interest  
**Practical - 3** = Practising with different datatypes, making identifiers, creating variables

## Week - 7 Module

**Lec -10** = Decision Making in C++: Flow Control Basics  
**Lec - 11** = If Statements: Checking Even Numbers

## Week - 8 Module

**Lec -12** = Handling Odd Numbers and Divisibility in C++  
**Practical - 4** = Practising programs of finding sum, area & perimeter

## Week - 9 Module

**Lec - 13** = If-Else Statements: Navigating Even-Odd Programs and Result Finder Ballet  
**Lec - 14** = Nested If-Else Statements: Maximizing Numbers and Grades

## Week - 10 Module

**Lec - 15** = Switch Statements in C++: Introduction and Applications  
**Practical - 5** = Practising Odd or Even Number program

# FUNDAMENTALS OF C++

## Week - 11 Module

**Lec - 16** = Century Year and Vowel Check Programs in C++

**Lec - 17** = Diving into Loops: A Fundamental Introduction

## Week - 13 Module

**Lec - 19** = Exploring Multiplication Table & Prime Number Programs in C++

**Lec - 20** = While Loop Unveiled: Sum of Digits of a Number Calculation

## Week - 15 Module

**Lec - 22** = Do While Loop Demystified: Introduction and Implementation

**Lec - 23** = Navigating Break Statements and the Infinite Loop

## Week - 17 Module

**Lec - 25** = Continue Statement Introduction & Implementation

**Lec - 26** = Continue Statement Introduction & Implementation

## Week - 19 Module

**Lec - 28** = Range-Based For Loop Adventures: HCF and LCM Finder Program

**Lec - 29** = Introduction to Nested Loops and Their Practical Implementation

## Week - 12 Module

**Lec - 18** = For Loop Basics: Printing Even Numbers

**Practical - 6** = Practising if-else programs and result finder program.

## Week - 14 Module

**Lec - 21** = Reversing Numbers with While Loop and Palindrome Check

**Practical - 7** = Practising different questions of nested if-else and Switch statement.

## Week - 16 Module

**Lec - 24** = Break Statement: Practical Implementation and Infinite Loop Example

**Practical - 8** = Practising programs of for loop and while loop.

## Week - 18 Module

**Lec - 27** = Factorial Finder and LCM Calculation in C++

**Practical - 9** = Practising Do while loop programs

## Week - 20 Module

**Lec - 30** = Star Printing, Number Tree Patterns, and Multiplication Table Programs

**Practical - 10** = Practising break & continue statements and Infinite loop programs

# FUNDAMENTALS OF C++

## Week - 21 Module

**Lec - 31** = Functions in Action: Sum, Max-Min, and Even-Odd Functions

**Lec - 32** = Function Challenges: Factorial, Prime Number, and Power Functions

## Week - 22 Module

**Lec - 33** = Unlocking Function Power: Extra Features and Introduction to Overloading

**Practical - 11** = Practising Multiplication table program and basic functions.

## Week - 23 Module

**Lec - 34** = Mastering Default Arguments in C++ and Embracing Recursion, Finding Factorials

**Lec - 35** = Exploring Power with Recursion & Fibonacci Numbers & Arrays in C++: Introduction and Basic Operations.

## Week - 24 Module

**Lec -36** = Array Mastery: Accessing, Traversing, and Finding Sums, Max, Min, and Avg

**Practical - 12** = Practising different functions program

## Week - 25 Module

**Lec - 37** = Array Adventures: Reversing, Merging, and Finding the 2nd Largest Element

**Lec - 38** = Introduction to Sorting Algorithms: Starting with Bubble Sort

## Week - 26 Module

**Lec - 39** = Implementing Bubble Sort: A Step-by-Step Guide

**Practical - 13** = Practising Array basic programs

## Week - 27 Module

**Lec - 40** = Understanding Selection Sort: Introduction and Algorithm

**Lec - 41** = Applying Selection Sort: Step-by-Step Implementation

## Week - 28 Module

**Lec - 42** = OOPs in C++: The Grand Finale

**Practical - 14** = Practising Array advanced programs