

1. C, C++ Programming (OOP Concepts)

- Module 1
- INTRODUCTION
- The C Language and its Advantages
- The Structure of a C Program
- Writing C Programs
- Executing a C Program
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- Module 2
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- DECISION MAKING & LOOPING
-
- Decision Making Statements
- (If, If...Else, If...Else If...Else)
- Nesting of If...Else
- Switch Statements
- GOTO Statements
- Looping Statements
- (While, Do...While, For)
- Jumps in Loops
- Nesting of Loops
-
- Module 3
-
- OPERATORS & EXPRESSIONS
-
- Arithmetic Operators
- Relational Operators
- Logical Operators
- Assignment Operators
- Increment and Decrement Operators
- Ternary Operator
- Arithmetic Expressions
- Precedence of Operators
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- Module 4
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- USER DEFINED FUNCTIONS
-
- Need for User Defined Functions

- Function Declaration
- Defining a Function
- Return Values and Types
- Categories of Functions
- Recursion
- Passing Arrays to Functions
- Passing String to Functions
- Scope, Visibility, and Lifetime of Variables
-
- Module 5
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- POINTERS
-
- What is a Pointer?
- Declaring Pointers Variables
- Accessing the address of a Variable
- Accessing a Variable through its pointer
- Pointers and Arrays
- Pointers and Character String
- Array of Pointers
- Pointers as Function Arguments
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- Module 6
-
- ARRAYS & STRINGS
-
- One Dimensional Arrays
- Two Dimensional Arrays
- Initialization of Arrays
- Declaring and Initializing
- String Variables
- Reading and Writing Strings
- String Handling Functions
- Table of Strings
-
- Module 7
-
- Constants, Variables & Datatypes
-
- Keywords and identifiers
- Constants

- Variables
- Data Types
-
- Module 8
-
- STRUCTURES & UNIONS
-
- Defining a Structure
- Declaring Structure Variables
- Accessing Structure Members
- Arrays of Structures
- Structure and Functions Unions
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- C++ Syllabus
- C++ Programming
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- The Training Session for C++ Programming furnish students with a extensive study of the C++ Programming Language. The course stresses the object paradigm including classes, inheritance, virtual functions, and templates in the development of C++ programs. Lab exercises Fortifies the Training Session.
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- Module 1
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- INTRODUCTION
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- Concepts of Object Oriented Programming
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- Benefits of OOP
- What is C++
- Structure of C++ Program
- Creating the Source File
- Compiling and Linking
-
- Module 2
-
- CLASSES & OBJECTS
-
- Specifying a Class
- Defining Member Functions
- Making an Outside Function Inline
- Nesting of Member Functions
- Private Member Functions

- Arrays within a Class
- Memory Allocation for Objects
- Static Data Members
- Static Member Functions
- Arrays of Objects
- Objects as Function Arguments
- Friendly Functions
- Returning Objects
- Pointer to Members
-
- Module 3
-
- OPERATORS & EXPRESSIONS
-
- Operators in C++
- Scope Resolution Operator
- Member Dereferencing Operators
- Memory Management Operators
- Manipulators
- Type Cast Operator
- Expressions and Types of Expressions
- Special Assignment Expressions
- Implicit Conversions
- Operator Overloading
- Operator Precedence
- Control Structures
-
- Module 4
-
- OPERATORS OVERLOADING
-
- Defining Operator Overloading
- Overloading Unary Operators
- Overloading Binary Operators
- Overloading Binary Operators using Friends
- Manipulation of Strings using Operators
- Rules of Operator Overloading
- Type Conversion
-
- Module 5
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- Virtual Functions & Polymorphism
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- Polymorphism - Overview
- Virtual Functions
- Pure Virtual Functions
- Virtual Constructors and Destructors
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- Module 6
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- EXCEPTION HANDLING
-
- Basics of Exception Handling
- Exception Handling Mechanism
- Throwing Mechanism
- Catching Mechanism
-
- Module 7
-
- VARIABLES & DATA TYPES
-
- Tokens
- Keywords & Identifiers
- Data Types
- Type Compatibility
- Variable Declaration
- Dynamic Initialization of Variables
-
- Module 8
-
- FUNCTIONS IN C++
-
- Function Prototyping
- Call by Reference
- Return by Reference
- Inline Functions
- Default Arguments
- Recursion
- Function Overloading
- Friend and Virtual Functions
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- Module 9

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- CONSTRUCTORS & DESTRUCTORS
- Constructors
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- Parameterized Constructors
- Multiple Constructors in a Class
- Constructors with Default Arguments
- Dynamic Initialization of Objects
- Copy Constructor
- Dynamic Constructors
- Destructors
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- Module 10
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- INHERITANCE
-
- Defining Derived Classes
- Single Inheritance
- Types of Inheritance
- Virtual Base Classes
- Abstract Classes
- Constructors in Derived Classes
- Member Classes
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- Module 11
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- MANIPULATING STRINGS
-
- Creating String Objects
- Manipulating String Objects
- Relational Operations
- Accessing characters in String
- Comparing and Swapping