

C++ syllabus

| Day | Chapter | Topics | Hours |
|-------------------------|---|--|-------|
| Day 1 Day 2 | Object Oriented Programming Principles | <ul style="list-style-type: none"> • Need of OOPs, difference b/w structured & OOPs • What are objects, features • OOPs Features • Classes & objects • Encapsulation • Inheritance • Polymorphism • Data Abstraction | 2 |
| Day 3 | Introduction C++ | <ul style="list-style-type: none"> • History, Features • Rules of C++ programming • Structure of C++ program • C++ Tokens • (Identifiers, Keywords, Constants, Operators, Special characters) • C++ Data types • (Basic, Derived, User defined) | 1 |
| Day 4 Day 5 Day 6 | Basic programming | <ul style="list-style-type: none"> • Console I/O Statements(cin, cout) • Programs to perform various calculations • Operators • Programs to implement various operators | 3 |
| Day 7 Day 8 Day 9 | Control statements | <ul style="list-style-type: none"> • Conditional Control Statements <ul style="list-style-type: none"> ○ If-else , switch-case • Loops <ul style="list-style-type: none"> ○ While, do while, for • Implementing programs on conditional & loops • break, continue, goto keywords | 3 |

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| Day 10 Day 11 Day 12 | Arrays | <ul style="list-style-type: none">• Definition, advantages• Array types• Single dimension• Double dimension• Declaration, accessing array data• Implementation of array operations | 3 |
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|--------------------------------------|---|--|-------|
| Day 13 Day 14 | Functions | <ul style="list-style-type: none"> • Definition, advantages, types of functions, classification • Implementing various kinds of functions • Inline functions | 2 |
| Day 15 Day 16 Day 17 Day 18 | Object Oriented Programming | <ul style="list-style-type: none"> • Defining a Class ,creating Objects • Accessing Data Members using objects • Calling Member Functions using objects • Implementing Array of Objects, objects as parameters & return type, new , this operators • Scope resolution operator • access specifiers(private, public, protected) • Implementing Static Data Members • Implementing Static Member Functions | 4 |
| Day 19 | Function Overloading | <ul style="list-style-type: none"> • What is function over loading • Implementing overloading on various functions | 1 |
| Day 20 | Operator Overloading | <ul style="list-style-type: none"> • Definition, why it is required, advantages • About operator keyword, rules of operator overloading • Overloading various operators | 1 |
| Day 21 Day 22 | Constructors & Destructors | <ul style="list-style-type: none"> • Definition, uses • Types (Default Constructor, Parameter Constructor, Copy Constructor) • Destructors | 2 |
| Day 23 Day 24 | Friend Function & Friend classes | <ul style="list-style-type: none"> • Friend Function definition, usage of friend keyword • Implementing of friend functions in various scenarios • Friend Class definition, usage • Implementing of friend class | 2 |

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| Day | Chapter | Topics | Hours |
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| Day 25 Day 26 Day 27 Day 28 Day 29 | Inheritance | <ul style="list-style-type: none"> • Definition, Advantages • Types of Inheritances (Single, Hirerchial, Multilevel, Multiple Hybrid) • Implementing various kinds of inheritances • Implementing various constructors in inheritance • Implementing function over riding • Implementing various access levels in inheritance | 5 |
| Day 30 Day 31 | Virtual Functions & Abstract Classes | <ul style="list-style-type: none"> • Definition, requirement, • How to implement • Pure virtual function definition • Implementing abstract classes | 2 |
| Day 32 Day 33 Day 34 | Templates | <ul style="list-style-type: none"> • Template Definition • Generic Function • Generic Class • Template function Overloading | 3 |
| Day 35 Day 36 Day 37 Day 38 | I/O Streams & Files | <ul style="list-style-type: none"> • Streams Hierarchy • Input Streams & Output Streams • What is File? • Implementing various file operations on basic data types(write, read, append and modify) • Implementing various file operations on object data types(write, read, append and modify) • Random Access Files(seekp, seekg, tellp, tellg) | 4 |
| Day 39 Day 40 | Formatted IO | <ul style="list-style-type: none"> • IO Flags • Io Functions | 2 |
| Day 41 Day 42 | Exception Handling | <ul style="list-style-type: none"> • Try, catch, throw | 2 |