

PLACEMENT FOR SURE COURSE CONTENTS

Programming Languages:

Programming in C	<ul style="list-style-type: none"> • Datatypes, Variables & Constants • Storage Classes • Operators • Conditional Statements • Looping Statements • Array • String • Pointers • Functions • Advanced Pointers • Advanced Functions • Structure and Union • Dynamic Memory Management • Working with Files • Advanced Topics (linux systems calls, bit fields,etc) • Coding practice • FAQs Practice
Programming in C++	<ul style="list-style-type: none"> • Basic differences between C and C++ • OOP concepts with real time examples (Freq) • Reference and Pointer • Class and Object • Data abstraction vs encapsulation (Freq) • Constructors and Destructor • Polymorphism • Function Overloading • Operator overloading • Static Members • Friend Function and Friend Class • Inheritance • virtual functions • Exception handling • Namespaces • Templates – Function Templates And Class Templates • Dynamic memory management • Introduction To STL (Standard Template Library) • Overview of file Handling in C++ • Coding practice • FAQs Practice
Core Java	<ul style="list-style-type: none"> • Core Java Programming Introduction of Java • Data types and Operators • Control Flow statements • Access Modifiers in Java

	<ul style="list-style-type: none"> • OOPS and its application in Java • Packages in Java • Class and Object • A closer look towards methods and classes • Constructors and Destructors • Object Class • Exceptions in Java • Strings in Java • Collection Framework in Java • Generics • Input-Output in Java • Inner Classes • Threads in Java • JDBC
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Data Structures :

Arrays	<ul style="list-style-type: none"> • What's so special about Arrays? • Data Structures vs APIs • How to insert into an Array • How to delete an Array element • How to resize Arrays dynamically
Linked Lists	<ul style="list-style-type: none"> • What is a Linked List? • What makes a Linked List different from an Array? • Add Front • Get First / Get Last • Add back • Size • Clear • Delete With Value • Double Linked Lists
Big O Notation	<ul style="list-style-type: none"> • What is Big O Notation? • The Big O Cheat Sheet
Stacks & Queues	<ul style="list-style-type: none"> • What are Stacks and Queues? • What is the Stack and Queue killer feature? • How to push and pop onto a Stack • How to add and remove from a Queue • Runtime characteristics of Stacks and Queues • What you need to know for the interview
Hash Tables	<ul style="list-style-type: none"> • What so great about Hash Tables? • How does hashing work? • How do you convert a hash into its index? • Runtime characteristics of Hash Tables
Binary Trees	<ul style="list-style-type: none"> • What is a Binary Tree? • How do you insert into a Binary Search Tree? • How do you find the minimum in a Binary Search Tree?

	<ul style="list-style-type: none"> • How does delete work in a Binary Search Tree? • What are some different ways you can traverse Binary Trees? • Runtime characteristic of Binary Search Tree
Binary Heaps	<ul style="list-style-type: none"> • What are Binary Heaps and what are they good for? • How do Binary Heaps work? • How do you insert into a Binary Heap? • How do you extract the max?
Fibonacci Series & Memoization	<ul style="list-style-type: none"> • What's a Fibonacci series? • What's memoization and how can it help?
Searching Algorithms	<ul style="list-style-type: none"> • Linear Search • Binary Search • Ternary search • exponential Search • logarithmic Search • Fibonacci Search
Sorting Algorithms	<ul style="list-style-type: none"> • What is the Bubble Sort? • Bubble Sort in code • Runtime characteristic of Bubble Sort • What is Merge Sort? • Merge Sort in code • Runtime characteristic of Merge Sort • What is Quicksort? • Quicksort in code • Runtime characteristic of Quicksort
Graphs	<ul style="list-style-type: none"> • What exactly are graphs? • What does the graph data structure look like? • Breadth First Search (BFS) • Lab: Breadth First from scratch • Depth First Search (DFS)

Database :

Basics	<ul style="list-style-type: none"> • What is database? • Advantages and Disadvantages of DBMS (Interview Point of view) • Levels of data abstraction in database • Structured vs unstructured databases • Deciding proper database for an application • Other types of storages • Transparent DBMS • Data ware housing • Online analytical processing (OLAP) • ORDBMS • Security of databases • Data independence and its types • Two and three tier architecture
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	<ul style="list-style-type: none"> • Types of constraints • CODD rules • Types of keys • Languages in Database • Different types of queries • Query processing • CRUD operations • Integrity rules of database • ACID properties with real life examples • Checkpoints in DBMS • Revision of ER diagram and components • Data modeling with ER model
Writing queries	<ul style="list-style-type: none"> • Understanding datatypes • SQL operators • Aggregate Functions • Date functions • Joins • SQL sequences • Set Operations • Views • SQL Alias • Setting Indexes • Sub queries • Clauses • Views • Keywords • SQL wildcards • Pattern matching • Null functions • Queries for scenario • Things you need to know from interview point of view!!
Advanced	<ul style="list-style-type: none"> • Introduction to cursors • Overview of triggers • Normalization concepts • Denormalization • RAID levels • SQL injection • Parallel Databases • Distributed databases • Little more about non-SQL databases

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Courses Offered : Programming in C & C++, Core and Advanced Java, Python, IOT workshops, Placement Preparation, Web Development, etc.

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