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...Learn IT, Bit by Bit...



# SOFTWARE TESTING

*Syllabus*

# 1

## C Programming

- *Programming Basics*
- *Functions (Built-in and User defined)*
- *Pointers*
- *Arrays*
- *String*
- *Dynamic Memory Allocation*
- *Structures*
- *Macros*
- *Mini Project*

# 2

## CPP

- *Introduction to OOP*
- *Class, Object*
- *Constructor, Destructor*
- *Operator Overloading*
- *Reference variable*
- *new, delete keywords*
- *Inheritance, Polymorphism*
- *Upcasting, Downcasting, Compile time,*
- *Runtime polymorphism*
- *Virtual pointer algorithm, Virtual table*
- *Abstract method, Pure virtual function*
- *Friend function, Inline function*
- *Access Specifier, Multiple Inheritance*
- *Hybrid Inheritance, Virtual class*
- *RTTI, Downcasting*
- *Dynamic Casting syntax, Virtual Destructor*
- *Static variable & Function*
- *Namespaces*
- *Exception Handling*
- *Templates*
- *File Handling*
- *Mini Project using file Handling & Templates*

# 3

## Manual Testing

- *Introduction to testing*
- *Fundamentals of testing*
- *Software Development Life Cycle (SDLC)*
- *Software Testing Life Cycle*
- *Verification*
- *Validation*
- *Types of testing*
- *Traceability Matrix*
- *Mobile application testing*
- *Web application testing*

## 4

# Core Java

- OOPs concepts
- Interface
- Final Variables
- Static Variables
- Exception Handling
- File Handling
- Collection Framework
- Multithreading
- Socket programming
- String
- Garbage collection
- Case Studies 3

## 5

# MySQL

- Database Normalization
- SQL Components and various commands
- Data definition Language
- Data Manipulation Language
- Select Statement, Groupby, having clause, Joins, Subquery
- String, Date and Number functions
- Views, Index
- PLSQL –Stored Procedure, Functions, Cursor, Triggers
- Transaction
- Case Study

## 6

# Selenium using Java

- Introduction to Automation Testing
- Automation testing tools
- Introduction to Selenium
- Selenium Components
- Installing Selenium
- Selenium Web Driver
- Writing simple test case
- UI elements
- Locators
- Selenium Commands
- WebDriver classes and methods
- Handling elements on a web page
- Handle AJAX requests using WebDriver

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# Selenium using Python

- Introduction to Python
- Writing simple test cases

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## Introduction to Testing

- *Installation*
- *Create test cases*
- *Annotations*
- *Groups*
- *Report generation*

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## Introduction to JIRA

- *Registration*
- *Dashboards*
- *Workflow*
- *Creating projects*
- *Components*
- *JIRA Issues*

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## Introduction to API

- *What is API testing?*
- *REST API*
- *API testing - Manual vs Automation*
- *POSTMAN tool*
- *Test API using POSTMAN*
- *Challenges in API Testing*

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## Introduction to DevOps & Agile

- *DevOps Basics*
- *Agile Methodology*
- *DevOps lifecycle*
- *DevOps Tools*
- *Continuous Integration / Continuous Delivery*
- *DevOps vs Agile*

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## Introduction to BDD/TDD (Cucumber & Gherkin)

- *Introduction to BDD and TDD*
- *Introduction to Gherkin (BDD language)*
- *Cucumber Testing framework*
- *Examples*

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## Case Studies

- *Understanding requirements*
- *Creating test cases*
- *Writing automation scripts*
- *Log Issues*

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## Git & GitHub

- *Introduction*
- *Installation & Lifecycle*
- *Create & clone operation*
- *Perform, Review & commit changes*
- *Push, update, stash, move operation*
- *What is GitHub?*
- *Create a Repository*
- *Create a Branch*
- *Make a Commit*
- *Open a Pull Request*

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## Credit System

- *Mock Interviews (Module wise)*
- *Technical quizzes*
- *Machine Test*
- *Project Presentations*

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## Aptitude

- *Averages and ages*
- *Percentages*
- *Ratio and Proportion*
- *Profit and Loss*
- *Partnership*
- *Speed, distance, and time*
- *Trains*
- *Boats and Streams*
- *Time and Work*
- *Pipes and Cistern*
- *Permutations and Combinations*
- *Probability*
- *Compound Interest*
- *Numbers and Divisibility Rules*
- *Allegations and mixtures*
- *Analytical Reasoning*
- *Linear sitting arrangement*
- *Circular sitting arrangement*
- *Parallel sitting arrangement*
- *Blood Relation*
- *Distance and Direction*
- *Coding and Decoding*

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## Softskills

- *Introduction to Communication Skills*
- *Confidence Building and Public Speaking*
- *English Grammar*
- *Business English*
- *Advanced Communication Skills*
- *Group Discussion*
- *Resume Building and Cover Letter*
- *Interview Preparation*
- *Email Writing*
- *Dressing / Attire / Grooming*
- *Public Speaking and Presentation Skills*
- *Interpersonal Skills and Assertiveness*
- *Time Management*
- *Stress Management*
- *One to One Counseling Session for needy candidates*

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## Operating Systems

- *Operating Systems an Overview*
- *Types of Operating Systems*
- *Components of an Operating System*
- *An overview of File Systems*
- *Process and Memory Management*
- *User Management*
- *Operating System Security*
- *Device Drivers*
- *Installing an OS using Virtual Box*
- *Operating Systems in Cloud*

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## Software Engineering

- *Introduction to Software Engineering*
- *Software Development Life Cycle*
- *SDLC Models*
- *Agile – SCRUM*
- *Requirement Analysis*
- *Project Management*
- *Design*
- *Introduction to UML*
- *Coding / Implementation*
- *Testing*
- *DevOps*

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