
FULL STACK: Software Training Employability Programme

Duration: 300Hours

Prerequisites

- There are no Pre-requisites for this course.
- A Basic Knowledge of Programming Language is Advantageous.

Basic Foundation Course

1. Programming Basics

- Fundamentals of Computer
- Understanding Applications
- Using Windows Explorer & File Structure
- Number Systems
- Application Software

2. C Language

- Introduction to C
- Keywords, Constants and Variables
- Data Types in C
- Operator and Expressions
- Control Structure
- Functions
- Pointers
- Arrays
- Structure
- String Handling
- Preprocessor Directives
- File Management in C
- Dynamic Memory Allocation

3. Object Oriented Concepts using C++

- Introduction to OOPs
- Beginning with C++
- Class, Objects Basics
- Constructor, Data Members
- Operator Overloading
- Inheritance
- Polymorphism
- Overriding

4. Operating System & Networking

- Need for operating system

- Functions of Operating System

- Process Management
- Memory Management
- File Management and
- Device Management
- Types of operating system
- TCP/IP fundamentals
- Networks and computer networks
- 2 tier, 3 tier and n-tier architecture

5. Linux Foundations

- Introduction to UNIX and its flavors
- UNIX architecture
- File System
- User and Group Policies
- Unix general commands
- Concept of Files and Directories in Unix
- File Permission and related commands
- Filter Commands and their options
- Vi Editor

6. Introduction to Database Management Systems

- Introduction to Database
- DBMS, RDBMS, ORDBMS
- DDL, DML, DCL, TCL
- Data types
- SELECT Statement
- Restricting and Sorting Data
- Aggregating Data using Group Functions
- Manipulating Data
- Sub queries
- Important Functions
- Joins and different types

Front End Technology

HTML

1. Introduction and Basic Structure of HTML
2. Basics, Elements, Attributes
3. Paragraphs and Formatting
4. HTML Skeleton, Links, Images
5. HTML Tables, Blocks
6. HTML Lists, Quick List

7. HTML Blocks
8. HTML Layouts & Forms, IFrames
9. HTML Colors
10. HTML5 Intro
11. HTML5 Video&HTML5 Audio
12. HTML5 Input Types
13. HTML5 Form Attributes

CSS

1. Introduction
2. Syntax
3. Id & Class
4. Backgrounds
5. Text and Fonts
6. Links and Lists
7. Box Model

8. Advanced Topics
 - Dimensions, Display
 - Positioning, Floating
 - Align
9. CSS3 Borders
10. CSS3 Backgrounds
11. CSS3 Text Effects
12. CSS3 Fonts

JavaScript& JQuery

1. JavaScript
 - Introduction
 - Statements & Comments
 - Variables
 - Operators and Comparisons
 - Conditional Statements and Loops
 - User Defined Functions
 - JS Objects
 - JS Validations
2. JQuery
 - Introduction
 - JQuery Syntax

- JQuery Selectors
3. JQuery Events
4. JQuery Effects
 - JQuery Hide/Show
 - JQuery Fade
 - JQuery Slide
 - JQuery Stop()
 - JQuery callback
5. JQuery HTML
 - JQuery Get/Set
 - JQuery Add/Remove
 - JQuery CSS Classes

Bootstrap

1. What is Bootstrap and its Setup
2. How to Create a Layout in Bootstrap
 - Grid Classes
3. Basic Tags in Bootstrap
 - Contextual colors and backgrounds
4. Table in Bootstrap
 - Bootstrap Basic Tables
 - Striped Rows, Hover Rows
 - Bordered Table, Condensed Table
 - Contextual Classes
 - Responsive Tables
5. Navigation bar in Bootstrap
 - Inverted Navigation Bar
 - Fixed Navigation Bar
 - Navigation Bar with Dropdown

- Right-aligned Navigation Bar
 - Collapsing the Navigation Bar
 6. Form in Bootstrap
 - Vertical Form
 - Horizontal Form
 - Inline Form
 7. Buttons in Bootstrap
 - Button Styles
 - Button Sizes
 - Block Level Buttons
 - Active/Disabled Buttons
 8. Images in Bootstrap
 - Rounded Corners Image
 - Circle Image
 - Thumbnail Image
-

Back End Programming

1. Introduction to Python

- Why Python, its Unique Feature and where to use it?
- Python environment Setup
- Discuss about IDE's like IDLE, Pycharm and Enthought Canopy
- Start programming on interactive shell.
- Python Identifiers, Keywords
- Discussion about installed modules and packages
- Access Command line arguments within programs

2. Conditional Statement, Loops and File Handling

- Python Data Types and Variable
- Condition and Loops in Python
- Decorators
- Python Modules & Packages
- Python Files and Directories manipulations
- Use various files and directory functions for OS operations

3. Python Core Objects and Functions

- Built in modules (Library Functions)
- Numeric and Math's Module
- String/List/Dictionaries/Tuple
- Complex Data structures in Python
- Arbitrary data types and their Data Structure
- Python built in function
- Python user defined functions
- Python packages and functions
- The anonymous Functions - Lambda Functions

4. Object Oriented Python

- OOPs Concepts
- Object, Classes and Destroying Objects
- Accessing attributes, Built-In Class Attributes
- Inheritance and Polymorphism
- Overriding Methods, Data Hiding
- Overloading Operators

5. Exception Handling in Python

- Exceptions Handling
- Handling various exceptions using try....except...else
- Try-finally clause
- Argument of an Exception and create self exception class
- Python Standard Exceptions
- Raising an exceptions, User-Defined Exceptions

6. Debugging Python Programs

- Debug Python programs using pdb debugger
- Assert for debugging
- Testing with Python using unittest
- Iterable and generator in Python
- Yielding from the generators
- Standard project setup in Python

7. Regular Expression

- Regular Expressions
- What are regular expressions?
- The match and search Function
- Compile and matching
- Matching vs searching
- Search and Replace feature using RE
- Extended Regular Expressions
- Wildcard characters and work with them

8. Package Installation and Windows spreadsheet parsing

- What is pip, easy install?
 - Set up the environment to install packages?
 - Install packages for XLS interface, Database Interface and Web interface
 - XML and XLS parsing with Python
 - Create XLS reports with Python
-

Database Handling with Python

1. Python MySQL Database Access

- Create Database Connection
- DML and DDL Operations with Databases
- Performing Transactions
- Handling Database Errors
- Disconnecting Database

2. Database Handling with NoSQL DB

- SQL vs NoSQL
- MongoDB
- PyMongo
 - Establishing a Connection
 - Accessing Database
 - DML and DDL Operations

Web Based Python Framework

1. Django Framework

- Introduction to Django
- How to create Django App
- Url Mapping
- Templates
- Introduction to static file
- Django Model Overview
- Creating model
- Model template view creation
- Django forms and validation
- Relative Url with Template

2. Interacting with a Database: Models

- Overview of Models,
- Creating Models
- Configuring the Database
- Your First App
- Using Django with MySQL.
- Population Scripts
- Models-Templates-Views Paradigm
- Inserting and Updating Data
- Selecting Objects
- Deleting Objects

3. The Django Administration Site

- Activating the Admin Interface
- Using the Admin Interface
- Users, Groups, and Permissions

4. Views and Templates

- URL Template Inheritance
- Template Inheritance Coding Example
- Quick Note on Custom Template Filters
- Template Filters and Custom Filters
- Template Filters Coding Examples
- Django Passwords
- Deploying Django Framework

5. Form Processing

- Django Forms
- Form Validation
- Model Forms
- Relative URLs with Templates
- Relative URLs Coding Examples

6. Flask Framework&TkInter GUI Framework

- Overview of Flask Framework
- Installation of Flask and Demo Application
- Overview of TkInter Framework
- TkInterWidgets
- Daily Assignments and hands on Topics covered.
- Interview Questions,Resume Formation and Interview Tips

ProjectWork

- ❖ Creating an online test evaluation system
 - ❖ Building an E commerce site in Django
 - ❖ Creating an online survey site
-

Aptitude & Reasoning

1. Quantitative Aptitude

- Number Systems
- LCM and HCF
- Percentages
- Profit, Loss and Discount
- Interest (Simple and Compound)
- Speed, Time and Distance
- Ratio and Proportion
- Probability
- Permutation & Combination
- Time and Work

2. Logical Reasoning

- Number and Letter Series
- Calendars
- Clocks
- Logical Sequence
- Blood Relations

3. Algebra

- Linear Equations
- Calendars
- Clocks
- Logical Sequence
- Blood Relations

Soft Skills

1. Self-Analysis

- Know yourself
- Personality types
- Areas of interest

2. Self-Discovery

- SWOT Analysis – strength, weakness, opportunities, threats

3. Goal Setting

- Short-term plan
- Long-term plan
- Effective Time Management

4. Effective Self Presentation

- Personal grooming
- Dressing,
- Hygiene

5. Effective Communication

- Verbal – Language
- Voice modulation - Tone, Pitch
- Clarity of Speech
- Listening skills
- Written communication – general business correspondence

6. Email Etiquette

7. Body Language

- Understanding non-verbal communication
- Postures, Gestures, Eye contact

8. Resume Writing

9. Tips for Group Discussion

10. Handling Telephonic interview

11. Mock – Technical interview

12. Mock – Personal interview (PI)

13. Office Etiquettes and Mannerisms
