**PYTHON (Django)**

**OVERVIEW OF PYTHON:**

* Introduction,
* Python Installation,
* Checking Version of Python,
* Overview of different modules in Python and their installation process.

**PYTHON BASIC:**

* Input and Output,
* Python Syntax,
* Comments,
* Variables,
* Python String,
* (Practices and Problems Solving on completed topics)

**PYTHON BASIC:**

* Python Input and Output, Conditions (If-Else),
* Loop (For Loop and While Loop),
* (Practices and problems solving on completed topics)

**PYTHON BASIC:**

* Python List, Tuples, Sets and Dictionaries.
* (Practices and Problems Solving on completed topics)

**PYTHON BASIC:**

* Python Functions and Python Modules, Dates, Math, and Python File Handling,
* (Practices and Problems Solving on completed topics)

**PYTHON BASIC:**

* Python Modules-NumPy, Scipy, Pandas, Scikit-Learn, Django, Creation of User Module
* (Practices and Problems Solving on completed topics)

**PYTHON BASIC:**

* OOP, Data Structure and Algorithms
* (Practices and Problems Solving on completed topics)

**PYTHON TKINTER FOR GUI PROGRAMMING (20 Hours)**

* **TKINTER:**Introduction and Installation of Tkinter, Basic library and their uses, First Gui project t using Tkinter,
* **TKINTER:**Label, Canvas, Combo Box, Check Button, Radio Button, Entry, Frame, Message, Scale, Scrollbar, Spin Box, Text, Menu.
* **TKINTER:**Project Work using widget selected by the trainer.
* **TKINTER:**Adding text, Buttons, Decorating buttons, Command - Interactive buttons, Getting user input, Frames, Adding a title, Adding an icon, Adding images, Editing default size of the window.
* **TKINTER:**Project Work using TKINTER selected by the trainer.

**WEB APPLICATION DEVELOPMENT USING DJANGO FRAMEWORK (30 Hours)**

* **INTRODUCTION TO FRONT END:**Html, CSS, JavaScript
* **INTRODUCTION TO DJANGO:**Features of Django, Django web server, Understanding Django environment, A simple ‘Hello world’ application
* **DISPLAYING HYPERLINKS - PROJECT:**Django architecture, MVC and MTV, Starting a project, Django apps, Activating our first app, A view that displays a hyperlink, Mapping the views to URLs, Running our first app. Improving the views using templates, The improved templates, Template inheritance, Sending data from URL to view, Sending data from view to template
* **CREATING A WEBSITE – PROJECT**:  
  Starting a project, Creating an app inside the project, Activating the app, Creating model for our site, Converting the model into a table, Examples for Fields in Models, Basic data access using Django shell, Saving objects into database, Retrieving objects from database, Modifying objects of database, Sorting objects, Filtering objects, Deleting objects. Making changes in the data model
* **CREATING ADMINISTRATION PANEL:**Using the admin interface, Customizing the admin interface, Adding users, Data access and modification using admin panel. Giving permissions to users CREATING
* **ADMINISTRATION PANEL:**Using the admin interface, Customizing the admin interface, Adding users, Data access and modification using admin panel. Giving permissions to users.
* **CREATING FIRST PAGE OF OUR SITE:**The Django template system, Template Inheritance, Improving the website, adding background colour for web pages, Adding banner to the web site, Adding background image in the web pages, Storing and displaying images, Adding users to our site, Uploading the information by user, Changing the administration interface title
* **DJANGO FORMS CREATION:**Forms basics, Creating Contact Us form, Form field examples
* **USING DATABASES IN DJANGO:**Using SQLite, Configuring MySQL database, working with MySQL in Django, Configuring Oracle database, working with Oracle in Django

**PROJECT WORK (15 Hours)**

* Project Work: Project Development using Tkinter and Django (Phase-1)
* Project Work: Project Development using Tkinter and Django (Phase-2)
* Project Work: Project Development using Tkinter and Django (Phase-3)
* Project Work: Project Development using Tkinter and Django (Phase-4)
* Project Work: Project Development using Tkinter and Django (Phase-5)