

# Python Syllabus

## **1: Introduction To Python**

- Installation and Working with Python
- Understanding Python variables
- Python basic Operators
- Understanding python blocks

## **2: Python Data Types**

- Declaring and using Numeric data types: int, float, complex
- Using string data type and string operations
- Defining list and list slicing
- Use of Tuple data type

## **3: Python Program Flow Control**

- Conditional blocks using if, else and elif
- Simple for loops in python
- For loop using ranges, string, list and dictionaries
- Use of while loops in python
- Loop manipulation using pass, continue, break and else
- Programming using Python conditional and loops block

## **4: Python Functions, Modules And Packages**

- Organizing python codes using functions
- Organizing python projects into modules
- Importing own module as well as external modules
- Understanding Packages
- Powerful Lamda function in python
- Programming using functions, modules and external packages

## **5: Python String, List And Dictionary Manipulations**

- Building blocks of python programs
- Understanding string in build methods
- List manipulation using in build methods
- Dictionary manipulation
- Programming using string, list and dictionary in build functions

## **6: Python File Operation**

- Reading config files in python
- Writing log files in python

Understanding read functions, read(), readline() and readlines()

Understanding write functions, write() and writelines()

Manipulating file pointer using seek

Programming using file operations

## **7: Python Object Oriented Programming – OOps**

Concept of class, object and instances

Constructor, class attributes and destructors

Real time use of class in live projects

Inheritance , overlapping and overloading operators

Adding and retrieving dynamic attributes of classes

Programming using OOps support

## **8: Python Regular Expression**

Powerful pattern matching and searching

Power of pattern searching using regex in python

Real time parsing of networking or system data using regex

Password, email, url validation using regular expression

Pattern finding programs using regular expression

## **9: Python Exception Handling**

Avoiding code break using exception handling

Safe guarding file operation using exception handling

Handling and helping developer with error code

Programming using Exception handling

## **10: Python Database Interaction**

SQL Database connection using python

Creating and searching tables

Reading and storing config information on database

Programming using database connections

## **11: Python Multithreading**

Understanding threads

Forking threads

Synchronizing the threads

Programming using multithreading

## **12: Contacting User Through Emails Using Python**

Installing smtp python module

Sending email

Reading from file and sending emails to all users addressing them directly for marketing

## **13: Python CGI Introduction**

Writing python program for CGI applications

Creating menus and accessing files ,Server client program

## **14: Django**

## **15: Sample Project**