

## **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: Sample Project