# Syllabus **Introductory Sessions**

- History of Python
- Introduction
- Starting with Python
- Execute python script

# Basic Data Types

- Indentation
- Data Types and Variables
- Operators
- Lists and Strings
- List Manipulations
- Shallow and Deep Copy

# Advanced Data Types

- Dictionaries
- Set and Frozensets
- Tuple
- Input from keyboard

# Conditional Statements

- If-else Block
- Loops, While Loop
- For Loop
- Iterators and Iterables

# Output Formatting

- Output with Print

- String Modulo

- Format Method

# Functions

- Introduction to Functions

- Recursion and Recursive Functions

- Parameter Passing in Functions

- Namespaces

- Global and Local Variables

- Decorators

# File Operations

- Read and Write Files

- Modules

- Packages

# Advanced Python Concepts

- Regular Expressions

- Lambda, Filter & Map Operators

- List Comprehension

- Iterators and Generators

- Exception Handling

- Tests, DocTests & UnitTests

# Object Oriented Programming

- Introduction

- Class and Instance Attributes

- Properties v/s getters and setters

- Inheritance

- Abstract Classes

# Powerful Utilities

- Multithreading

- Memory Management

- Logging Facility

- Argument Parser

- Invoking Sub process

- Lincache, fnmatch etc.

# Domain Specific (in brief)

- Networking Automations, or

- Django Web Framework, or

- Numerical Data Analytics

- Numpy

- Pandas, or

- Data Science Analytics

- Web Scrapping & Crawling

- Machine Learning, or

- Automation Tooling