

## Syllabus week wise

Week 1(23<sup>rd</sup> September y 2023, Timings 10AM to 2PM)

### Session 1: Introduction to Python

- What is Python?
- Installing Python and an IDE (Integrated Development Environment)
- Running Python scripts
- Variables and constants and data types and Operations

### Session 2: Loops and conditional statements

- while loop
- for loop
- If conditional statement
- List and Tuples
- Dictionaries and Sets
- Operations on List, tuple, Directory and Set

Week 1(24<sup>th</sup> September 2023, Timings 10AM to 2PM)

### Session 3: File handling and Functions

- Opening and closing files
- Reading and writing files
- Working with file paths
- Exception handling
- Defining and calling functions
- Function arguments (positional, keyword, default, return statement)

Week 2(30<sup>th</sup> September 2023, Timings 10AM to 2PM)

### Session 4: Introduction to Pandas

- Introduction to Pandas and its features
- Installing pada with pip
- Series and Data Frame data structures
- Data indexing and slicing
- Data loading and basic analysis with Pandas

Week 2(1<sup>st</sup> October 2023,10AM to 2 PM)

Session 5: Data exploration with Pandas

- Data cleaning: handling missing and duplicate values.
- Data filtering and selection
- Data aggregation and grouping
- Data merging and joining

Week 3(7<sup>th</sup> October 2023, 10AM to 2PM)

Session 6: Data Analysis and Visualization with Pandas

- Data exploration: descriptive statistics and data visualization
- Time series analysis: working with dates and time in Pandas.
- Data visualization: plotting with Pandas.
- Data transformation: pivoting and melting data.

Week3(8<sup>th</sup> October 2023,10 AM to 2 PM)

Session 10: Reshaping, Pivoting and introduction to large dataset.

- Pivoting data with the pivot table function
- Stacking and unstacking data with the stack and unstack functions.
- Transposing data with the transpose function
- Merging and joining datasets with the merge and join functions.
- Transforming data with the apply function.
- Handling large Data set using pandas—theoretical

## **Tentative schedule for Students:**

**Training Schedule:**

**4 Hours per day preferably weekends Saturday & Sunday**

**Batch Timing: 10am to 02 pm**

**The training programme is of 24 hours.**