**SYLLABUS**

**UNIT 1:**

**Files**: File Operations, Files and Streams, Creating a File, Reading From a File, Iterating Through Files, Seeking, Serialization

**Book**:

Learning to Program Using Python

Cody Jackson - CHAPTER 10

**UNIT 2:**

**Databases**: How to Use a Database, Working With a Database , Using SQL to Query a Database, Python and SQLite, Creating an SQLite DB, Pulling Data from a DB, SQLite Database Files.

**Book**:

Learning to Program Using Python

Cody Jackson - CHAPTER 17

**UNIT 3:**

**NumPy**: The Basics of NumPy Arrays, Computation on NumPy Arrays: Universal Functions, Aggregations: Min, Max, and Everything In Between, Computation on Arrays: Broadcasting, Comparisons, Masks, and Boolean Logic, Fancy Indexing, Sorting Arrays.

**Book : Python Data Science Handbook -CHAPTER 2**

**UNIT 4:**

**Introduction to Pandas:** Loading your first data set, Looking at columns, rows, and cells, Creating your own data, The Series, The DataFrame.

**Book: Pandas for Everyone – Chapter 1 and Chapter 2**

**UNIT 5:**

**Data Manipulation with Pandas:** Operating on Data in Pandas, Handling Missing Data, Combining Datasets: Concat and Append, Merge and Join, Aggregation and Grouping.

**Book : Python Data Science Handbook -CHAPTER 3**