

**SES's L.S. RAHEJA COLLEGE OF ARTS AND COMMERCE
(AUTONOMOUS)**



BOARD OF STUDIES: Information Technology and Data Science

Programme: B.Sc. (Artificial Intelligence & Data Science)

Semester: I

Nomenclature of the Course: Python Lab

NEP Vertical: Major

Credit: 01

Total Marks: 25

Academic Year: 2026–27

(As per Choice Based Credit System under NEP 2020)



List of Practical

1. Basic Python Programs

- Program to perform arithmetic operations
- Type conversion and formatted output

2. Control Structures

- Program to check prime number
- Program to generate Fibonacci series
- Program for Armstrong number

3. Loop-Based Applications

- Pattern printing programs
- Factorial using loop

4. Functions

- User-defined functions for mathematical operations
- Recursive function (Factorial / Fibonacci)

5. Strings

- String slicing and manipulation
- Palindrome check

6. Lists & Tuples

- List operations (append, remove, sort)
- Matrix addition using lists

7. Dictionary Operations

- Frequency counter using dictionary
- Student record management using dictionary

8. File Handling

- Write and read data from text file
- Word count program

9. Exception Handling

- Handling division by zero

10. Mini Problem-Solving Task

- Menu-driven program integrating control structures, functions and file handling

Learning Objectives

1. To implement problem-solving techniques using Python.
2. To develop structured programming skills.
3. To use Python data structures effectively.
4. To perform file operations and exception handling.

Course Outcomes (CO)

CO No.	Course Outcome	Bloom's Level	PSO Mapped
CO1	Implement basic Python programs using control structures	Apply (L3)	PSO2
CO2	Develop programs using functions and recursion	Apply (L3)	PSO2
CO3	Utilize lists, tuples, and dictionaries effectively	Apply (L3)	PSO3
CO4	Perform file handling and exception management	Apply (L3), Analyze (L4)	PSO2
CO5	Integrate programming constructs to build mini applications	Analyze (L4)	PSO2, PSO3

Evaluation Scheme

Continuous Evaluation (Internal – 25 Marks)

Component	Marks
Journal	5
Viva	5
Practical Exam	15
Total	25