## Certificate course in  Programming through Python

**Duration (In Hours)**: 40 Hours (@ 2 hours Daily)

## Course contents

### Unit 1: Introduction to Python Programming

- Introduction to problem-solving and Algorithms
- Introduction to Python and its features
- Installing Python and setting up the development environment
- Basic Python syntax and data types
- Writing and executing Python scripts
- Using variables, operators, and expressions
- Basic input and output in Python

### Module 2: Control Flow and Loops

- Introducing Conditional statements (if, else, elif) with practical examples
- Loops (while, for) and iteration
- Understanding control flow and program execution
- Solving simple problems using control flow and loops

### Module 3: Data Structures in Python

- Lists, tuples, and sets
- Working with dictionaries
- Understanding data structures and their use cases
- Manipulating and accessing elements in data structures
- Applying data structures to solve real-world scenarios

### Module 4: Functions and Modules

- Writing and using functions in Python
- Parameters, return values, and scope
- Understanding modules and libraries
- Using built-in and external modules to enhance functionality
- Implementing functions in problem-solving