Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati

(Autonomous)

Department of Statistics

Certificate Course in

CC-074 Basic Python

Course Syllabus

Course Objectives:

- Introduce learners to the fundamentals of Python programming language, including variables, data types, operators, and basic syntax.
- Teach control structures like loops (for, while) and conditional statements (if-else) to control the flow of a program.
- Introduce the concept of functions, how to define and use them, and the importance of modular programming.
- Cover fundamental data structures such as lists, tuples, dictionaries, and sets. Explain how to manipulate and use these structures effectively.
- Teach how to read from and write to files, including text and CSV files, and the basic file handling operations in Python.
- Familiarize learners with commonly used libraries and modules in Python, such as math, date time, random, and others statistical libraries.

Course Outcomes:

Students should be able to:

CO1. understand and explain basic Python concepts, including variables, data types, operators, and syntax.

CO2. use control structures like loops (for, while) and conditional statements (if-else) to design and implement Python programs.

CO3. define and use functions effectively, employing modular programming techniques to create more structured code.

CO4. work with Python data structures such as lists, tuples, dictionaries, and sets to store, retrieve, and manipulate data efficiently.

CO5. demonstrate proficiency in reading from and writing to files, including text and CSV files, using basic Python file handling operations.

TULJARAM CHATURCHAND COLLEGE BARAMATI

CO6. use Python libraries and modules, such as math, datetime, and random, to solve problems efficiently.

CO7. to analyze programming problems and apply the appropriate Python techniques and structures to develop solutions.

CO8. apply their Python skills to develop small applications or scripts that solve real-world problems using the concepts covered in the course.

Credit: 02

Unit No.	Contents	No. of Periods/Hours
I	Understanding Python Basics	8
II	Control Structures and Functions	8
II	Data Structures and File Handling	8
IV	Introduction to Libraries and Modules and Basic Statistical Algorithms	8
	Total	**32**

Mode of Evaluation:

1. Written Online Examination