



**LPCPS**  
LUCKNOW PUBLIC COLLEGE  
OF PROFESSIONAL STUDIES

## LUCKNOW PUBLIC COLLEGE OF PROFESSIONAL STUDIES

### PROGRAMMING IN PYTHON

**Duration (40 Hours)**

**Course Specific outcomes:** The course is designed to provide basic knowledge of Python to students which they can use for problem-solving and programming capability.

#### Unit-I (10 hours)

**Getting Started:** Introduction to Python- an interpreted high-level language, Difference between C & Python, Python Virtual Machine, Execution of program.

**Variables, Expressions and Statements:** Values, Variables and keywords; Operators and Operands, operator precedence, Expressions and Statements.

**Conditional constructs and looping:** if else statement while, for, break, continue, else, pass & return statements.

#### Unit-II (10 hours)

**Functions:** Importing Modules, invoking built-in functions, functions from math module. Defining functions, invoking functions, passing parameters, scope of variables, void functions and functions returning values.

**Strings:** Creating, initializing and accessing the elements; string operators: +, \*, in, not in, range slice; comparing strings using relational operators.

#### Unit-III (10 hours)

**Lists:** Concept of mutable lists, creating, initializing and accessing the elements, traversing, appending, updating and deleting elements; List operations.

**Dictionaries:** Concept of key-value pair, creating, initializing and accessing the elements in a dictionary, traversing, appending, updating and deleting elements.

**Tuples:** Immutable concept, creating, initializing and accessing the elements in a tuple; tuple functions: cmp(), len(), max(), min(), tuple().

**Stacks and Queues with lists.**

#### Unit-IV (10 hours)

**Data File:** Opening and closing files, file object, access modes, reading and writing a file, file positions, renaming and deleting a file.

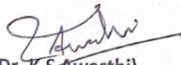
**Classes:** Defining classes, creating instance objects, accessing attributes and methods, using built-in class attributes private attributes

**Inheritance:** Single and multiple inheritance- Overriding methods, using super() in derived class to invoke init() or overridden methods of parent class.


**Data Hiding, MethodOverriding, and Polymorphism Handling, Exceptions:** try...except, try...finally.

**Assessment Criteria/ Award of certification:**


Participants who secured 75 % attendance shall be awarded the completion certificate.

  
(Dr. K.S. Awasthi)

Course Coordinator

  
(Dr. L.S. Awasthi)

Dean Academics

  
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