

Gurukul Educational And Research Institute



SHIKSHA SANKUL, SAHASTRADHARA ROAD, NEARBY IT PARK,
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Diploma in Python Programming (Basic + Advanced)

Duration

1 Year (Integrated Basic + Advanced)

Eligibility

- 10th / 12th Pass
- Basic Computer Knowledge Recommended

Course Structure

PART 1 – BASIC PYTHON (Foundation Level)

Module 1: Introduction to Programming

- What is Programming?
- Algorithm & Flowchart
- Introduction to Python
- Installing Python & IDE

Module 2: Python Basics

- Variables & Data Types
- Input / Output
- Operators
- Comments

Module 3: Control Statements

- If / Else
- Nested If

- For Loop
- While Loop
- Break & Continue

Module 4: Data Structures

- Lists
- Tuples
- Sets
- Dictionaries

Module 5: Functions

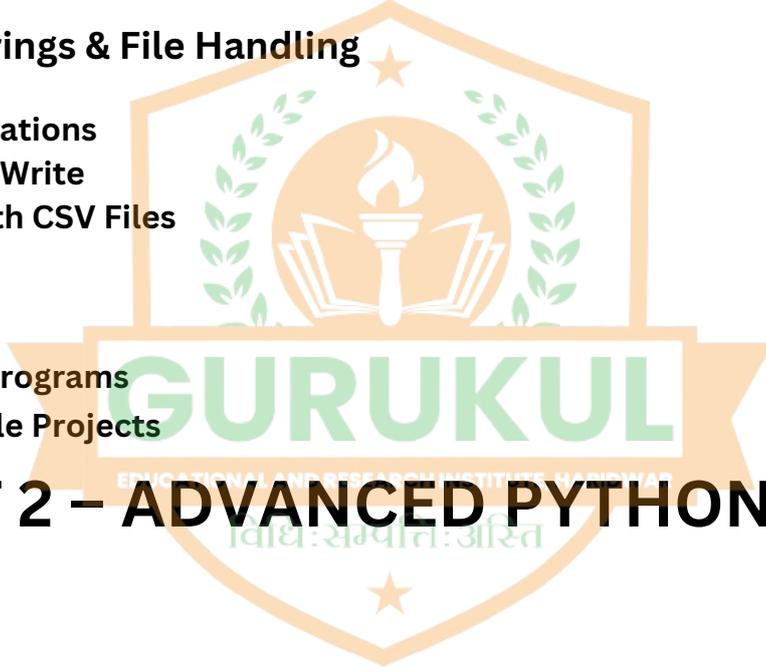
- User Defined Functions
- Arguments & Return Values
- Lambda Functions

Module 6: Strings & File Handling

- String Operations
- File Read & Write
- Working with CSV Files

Practical:

- 60+ Basic Programs
- Mini Console Projects



PART 2 – ADVANCED PYTHON (Professional Level)

Module 7: Object Oriented Programming

- Classes & Objects
- Constructors
- Inheritance
- Polymorphism
- Encapsulation

Module 8: Exception Handling

- Try / Except
- Finally
- Custom Exceptions

Module 9: Modules & Packages

- Built-in Modules
- Creating Own Modules
- PIP & Virtual Environment

Module 10: Database Connectivity

- Introduction to MySQL
- Connecting Python with MySQL
- CRUD Operations

Module 11: Web Development

- Introduction to Flask
OR
- Introduction to Django
- Creating Basic Web Application

Module 12: Python Libraries

- NumPy Basics
- Pandas Basics
- Matplotlib Basics

Module 13: Automation

- Working with Excel Files
- Web Automation Basics
- Email Automation

Practical & Project Work

- 100+ Programming Assignments
- 3 Mini Projects
- 1 Major Final Project (Web / Database Based)
- Project Presentation

Examination Pattern

- Theory – 100 Marks
- Practical – 150 Marks
- Project – 100 Marks
- Viva – 50 Marks

Career Opportunities

- Python Developer
- Backend Developer
- Junior Data Analyst
- Automation Engineer Web
- Developer (Basic Level)