

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Computer Science & Information Technology, VI-Semester

CSIT-605 Programming in Python

Course Objective:

The course is designed to provide Basic knowledge of Python. Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the Python programming language. Learning Outcomes: Problem solving and programming capability.

Course Outcomes:

1. Install Python and have knowledge of syntax of Python.
2. Describe the Numbers, Math functions, Strings, List, Tuples and Dictionaries in Python.
3. Express different Decision Making statements and Functions.
4. Develop code in Python using functions, loops etc.
5. Design GUI Applications in Python and evaluate different database operations.

Course Contents:

UNIT I:

Introduction, History, Features, Python –Environment Setup Local Environment Setup, Getting Python, Installation of Python, Use of IDE.

UNIT II:

Python –Basic Syntax Python Identifiers, Reserved Words, Lines & Indentation, Multiline Statements, Quotation in Python, Comments & other useful constructs, Python –Variables Assigning Values to Variables, Multiple Assignment, Standard Data Types.

UNIT III:

Python –Variables, Assigning Values to Variables, Multiple Assignment, Standard Data Types; Python Numbers, Python Strings, Python Lists, Python Tuples, Dictionary, DataType Conversion.

UNIT IV:

Python –Basic Operators, Types of Operators, Arithmetic Operators, Comparison Operators, Assignment Operators, Bitwise Operators, Logical Operators, Operator Precedence, Python – Decision Making & Loops, Flowchart, If statement Syntax.

UNIT V:

Python-Functions, Syntax for defining a function, Calling a Function, Function Arguments, Anonymous Functions Python-Applications & Further Extensions.

Recommended Books:

1. Python Crash Course: A Hands-On, Project-Based Introduction to Programming, by Eric Matthes, No Starch Press.
2. Learn Python the Hard Way' by Zed A. Shaw (3rd Edition), Addison Wesley.
3. Head-First Python, by Paul Barry, O'Reilly.
4. 'Python Programming' by John Zelle, Franklin, Beedle & Associates Inc;

List of Experiments:

1. Write a program for literals, constants, data type, i/o.
2. To create a program for list, tuples and dictionary.
3. To write a program to find mean, median, mode for the given set of numbers in a list.
4. To write a program to find the first n prime numbers.
5. Write a Program for checking whether the given number is an even number or not.
6. Write a program to find the square root of a number.
7. To write a program to find the exponentiation (Power of a number).
8. To write a program to print Fibonacci Series.
9. To write a program to show Inheritance.
10. To achieve functional Polymorphism.
11. Write a program to print each line of a file in reverse order.