

B. Sc. –III [Mathematics] Semester V

Skills Enhancement Course

Python Programming

U-ADC-640

Learning Objectives:

1. To understand why Python is a useful scripting language for developers.
2. To learn how to install Python, start the Python shell
3. To define the structure and components of a Python program.
4. To learn to perform basic calculations, print text on the screen and perform simple control flow operations using if statements and for loops

Course Outcomes:

On completion of this course successfully students will be getting following skills:

- Using loops in R software
- Sorting and ordering and lists in R software

Unit-1

Introduction to Python and Basic Concepts in python Introduction to python: What is python? , Applications of Python, Why Python? Installation of python, First program in Python, Comments and Docstrings in Python. Variable and data types, Operators in python. File Handling : working with open, read, write, append modes of file Conditional Statements: Indentation in python, if, if-else, nested if-else statements

Unit-2

Looping Statements, Control statements, String Manipulations Looping Statements: for loop, while loop , Nested loops Control Statements: break, continue and pass String Manipulations: Accessing strings, Basic operations, String slices, Functions and methods

Reference Books

- 1 Introducing python - Bill Lubanovic
2. Machine Learning (in Python and R) For Dummies - John Paul Mueller

3. Core Python Programming – Dr. R.Nageswara Rao.

4. Python Cookbook - David Beazley and Brian K. Jones

List of Practical's

(Student has to perform any 10 at the end of semester)

1. Hello world program in python

2. Python Program to Check Whether a Given Year is a Leap Year

3. Python Program to Check Whether a Number is Positive or Negative

4. Print "1" if a is equal to b, print "2" if a is greater than b, otherwise print "3". Print "Hello" if a is equal to b, and c is equal to d.

5. Python Program to Read a Number n And Print the Series "1+2+.....+n= "

6. Python Program to Check if a Number is a Palindrome

7. Python Program to Count the Number of Digits in a Number

8. Python Program to Find the Sum of Digits in a Number

9. Python Program to Print Odd Numbers Within a Given Range

10. Python Program to Find the Factorial of a Number

11. Python Program to check the number is prime or not

12. Python Program to Make a Simple Calculator using function