VIDYA JYOTHI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

I Yr –II SEM

PYTHON PROGRAMMING LAB

Week -1: (Installation & Simple Applications)

1. i) Use a web browser to go to the Python website http://python.org. This page contains information about Python and links to Python-related pages, and it gives you the ability to search the Python documentation.
2. ii) Start the Python interpreter and type help () to start the online help utility.
3. Start a Python interpreter and use it as a Calculator.

Week - 2: (Mathematical Expressions & I/O Operations)

1. i) Write a program to calculate compound interest when principal, rate and numbers of periods are given.
   ii) Given coordinates (x1, y1), (x2, y2), find the distance between these two points.
2. Read name, address, email and phone number of a person through keyboard and print the details.

Week – 3 (Conditional statements)

1. Write a Program to find the given number is even or odd.
2. Write a program to find the maximum of three number s (use 'if-elif-else' ladder).

Week – 4 (Loop Statements)

1. Write a program to Print the Fibonacci sequence using while loop.
2. Write a program to Print the below triangle using for loop:

```
        5
        4 4
        3 3 3
        2 2 2 2
    1   1 1 1 1
```

3. Write a program to print all prime numbers in a given interval (using break statement)

Week – 5 (List, Tuple, Dictionary)

1. i) Write a program to illustrate operations of List & Tuple.
   ii) Write a program to find common values between two lists.
2. Write a program to perform addition of two matrices.
3. Write a program to read dictionary values from the user and find an element using given key.

Week – 6 (Functions & Modules)

1. Write a function called is sorted that takes a list as a parameter and return True if the list is sorted in ascending order and False otherwise.
2. Write a function called GCD that takes parameters a and b and return their greatest common divisor.
3. How do you make a module? Give an example of construction of a module using different geometrical shapes and operations on them as its functions.

Week –7(Strings)

1. Write a program to add a comma between the characters. If the given word is 'Apple', it should become'A,p,p,l,e'
2. Write a program to remove the given word in all the places in a string?
3. Write a function that takes a sentence as an input parameter and replaces the first letter of every word with the corresponding upper case letter and the rest of the letters in the word by corresponding letters in lower case without using a built-in function?

Week–8 (Classes & objects)

1. Write a program to add two complex numbers using classes and objects
2. Write a function called draw rectangle that takes a Canvas and a Rectangle as arguments and draw a representation of the Rectangle on the Canvas.

Week– 9 (Inheritance)

1. Write a program to demonstrate the various types of Inheritances.

Week– 10(File Concepts)

1. Write a program to merge two given files contents into a third file.
2. Write a program to Read text from a text file, find the word with most number of occurrences
3. Write a program that reads a file file1 and displays the number of words, number of vowels, and blank spaces.

Week – 11(Packages)

1. a) Install NumPy package with pip and explore it.
   b) Illustrate 1-D and 2-D vector processing and slicing.
2. Explore matplotlib with plotpy and visualize the data.