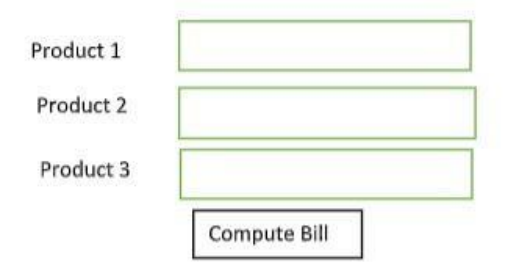
Python Programming(I) MMC101 List of Termworks			
S.No	Unit	Concept	Problem Statement
1	1	Decision Control Structure Statements, Dictionary	Create a Python program that manages a dictionary of words and their meanings. The program should provide the following options for the user: 1. .Add a new word – Allow the user to add a word along with its meaning. 2. Find the meaning of a word – Let the user search for a word and display its meaning if it exists. 3. Display the dictionary – Show all words along with their meanings. 4. Delete a word – Remove a word from the dictionary. 5. Modify the meaning of a word – Update the meaning of an existing word. 6. Quit – Exit the program. The program should continue running until the user chooses to quit.
2	2	User Defined Functions	Write a menu-driven Python program that performs various number-related operations. The program should use a user-defined function for each task and provide the following options: 1. Check if a number is prime 2. Find the factorial of a number 3. Check whether a number is even or odd 4. Check whether a number is a perfect number 5. Exit the program The program should continuously display the menu and execute the chosen option until the user decides to exit.
3	2	Working with database	Create a table to store the population and land area of the Karnataka state (Assume data) 1. Create a new database called census.db. 2. Make a database table called Density that will hold the name of the district (TEXT), the population (INTEGER), and the land area (REAL). 3. Insert data into the table. 4. Display the contents of the table. 5. Display the populations. 6. Display the districts that have populations of less than 1 million. 7. Display the districts that have populations less than 1

			million or greater than 5 million. 8. Display the districts that do not have populations less than 1 million or greater than 5 million. 9. Display the populations of districts that have a land area greater than 200,000 square kilometers. 10. Display the districts along with their population densities (population divided by land area).
4	3	Object Oriented Concepts	Create a Python program to simulate a bank account system with the following functionalities: 1. Create Account 2. Deposit Money 3. Withdraw Money 4. Check Balance 5. Display Account Details 6. Exit Implement a menu where users can select options to perform these tasks. The program should continue running until the user chooses to exit.
5	3	Operator Overloading	Write a Python program to demonstrate operator overloading by overloading the + operator to add two objects of a class Distance.
6	4	GUI Programming	Create a GUI application using Tkinter to design the following form and perform the actions mentioned below.  ● Price of Product1=Rs.500/unit ● Price of Product2=Rs.50/unit upto 50 units, otherwise it is Rs.45 ● Price of Product3=Rs.100/unit and minimum quantity to buy is 10 units ● When the Compute Bill button is clicked, the final billing amount should be displayed.
7	5	Numpy/Pandas	Create a Python program for the following exercises by using Numpy and pandas. • Create an identity matrix.

			• Find the square root of each element in an array. • Sort an array. • Square each element in an array. • Take logs of each element in an array. • Create an array of zeros. Create an array of ones. • Find the mean of array. • Create two data frames and merge them.
8	5	Visualization	Create the following plots by using Matplotlib. • Line plot • Histogram • Bar Chart • Scatter plot • Pie charts