Lab	Practical
LAB-1	**Basic programs to understand the working of python.** 1. Write a program to print "Hello World". (A) 2. Write a program to print your address i) using single print ii) using multiple print. (A) 3. Write a program to print the addition of 2 numbers (without input function). (A) 4. Write a program to calculate and print the average of 2 numbers (without input function). (A) 5. Write a program to add two numbers entered by the user. (A) 6. Write a program to calculate the area of a circle. (A) 7. Write a program to take 4 subjects' marks from the user and calculate total marks & Percentage. (A) 8. Write a program to calculate the area of a triangle (hint: a = h*b*0.5). (B) 9. Write a program to calculate the area of a rectangle. (B) 10. Write a program to calculate simple interest. (B) 11. Write a program to print a multiplication table of a given number. (B) 12. Write a program to convert Celsius to Fahrenheit and vice versa. (Hint- F ((9*C/5)+32). (B)
LAB-2	**Working with Conditional Statement & Operator.** 1. Write a program to check whether the given number is positive or negative. (A) 2. Write a program to check whether the given number is odd or even. (A) 3. Write a program to find the largest number from the given three numbers. (A) 4. Write a program to display the day's name according to the number given by the user. (A) 5. Write a program to perform addition, subtraction, multiplication, and division of two numbers based on user input. (A) 6. Write a program to find the largest number from the given two numbers using the ternary operator. (B) 7. Write a program to find the largest number from the given three numbers using the ternary operator. (B) 8. Write a program to check whether the given year is a leap year or not. (B) 9. Write a program to calculate electricity bill based on the following criteria. Take the units from the user. (C) i. First 1 to 50 units – Rs. 2/unit ii. Next 50 to 100 units – Rs. 3.5/unit iii. Next 100 to 200 units – Rs. 5.5/unit iv. above 200 units – Rs. 8/unit.

LAB-3	**Working with Looping Statement.** 1. Write a program to print 1 to N using for and while loop. (A) 2. Write a program to print the sum of N numbers using for and while loop. (A) 3. Write a program to find the factorial of the given number. (A) 4. Write a program to print even numbers between given two numbers. (A) 5. Write a program to print the sum of digits of a given number. (A) 6. Write a program to find whether the given number is prime or not. (B) 7. Write a program to print a multiplication table of a given number. (B) 8. Write a program to print the sum of series 1 + 4 + 9 + 16 + 25 + 36 + ... for given N numbers. (B) 9. Write a program to print the sum of series 1 - 2 + 3 - 4 + 5 - 6 + 7 - .... upto given N number. (B) 10. Write a program to find out prime numbers between given two numbers. (C)
LAB-4	**String Handling in python.** 1. Write a program to find the length of a string with and without using the len function. (A) 2. Write a program to remove ith character from the given string. (A) 3. Write a program to count 'R' in this string. "DARSHAN UNIVERSITY". (A) 4. Write a program to count the number of vowels in a given string. (A) 5. Write a program to print even-length words in a string. (A) 6. Write a program to check given string is palindrome or not. (B) 7. Write a program to do string slicing from left rotate and right rotate the given string by d elements (where d <= n). (B) 8. Write a program to reverse the word in a given string. (B)
LAB-5	**Understand Working of list** 1. Write a program to find the sum of all the elements in the list. (A) 2. Write a program to find the smallest and largest element from the list entered by the user. (A) 3. Write a program to take a list from the user split the list into two and append the first part to the end of the list. (A) 4. Write a program to interchange the first and last elements of a list entered by a user.(A) 5. Write a program to reverse the list entered by the user. (A) 6. Write a program to print all even numbers of the list entered by the user. (A) 7. Write a program to search for an element in a list. (A) 8. Write a program to sort a list in ascending order. (A) 9. Write a program to convert a list of characters entered by the user into a string. (A) 10. Write a program to interchange the list elements based on two positions entered by a user. (B)

	11. Write a program to print all odd numbers of the list entered by the user. (B) 12. Write a program to enter the name, quantity, and price of five products by a user. Generate and print all the details with the product's total amount in a formatted manner using list. (C)
LAB-6	**Understand Working of tuple** 1. Write a program to enter values and reverse the tuple. (A) 2. Write a program to remove duplicate values from the tuple. (A) 3. Write a program to check if the tuple is distinct or not. (A) 4. Write a program to find tuples with positive elements in the list of tuples. (A) 5. Write a program to find tuples that have all elements divisible by k from a list of tuples. (B)
LAB-7	**Understand Working of set** 1. Write a program to create a set using the list of elements and find its size. (A) 2. Write a program to find the maximum and minimum elements from a given set. (A) 3. Write a program to remove an element from a set given by the user. (A) 4. Write a program to convert a given set into a tuple and a tuple into a set. (B) 5. Write a program to perform union, intersection, difference, and symmetric difference operations for given two sets. (B)
LAB-8	**Understand Working of dictionary** 1. Write a program to create a dictionary for N values and print the size of the dictionary. (A) 2. Write a program to create a dictionary from a string. (A) 3. Write a program to sort a dictionary by key in ascending and descending order. (A) 4. Write a program to enter a key and add a key to a dictionary if it does not exist. (A) 5. Write a program to sort a dictionary by value in ascending and descending order. (B) 6. Write a program to enter a key and to remove a key from a dictionary if it exists. (B) 7. Write a program to merge two dictionaries given by the user into one dictionary. (B) 8. Write a program to convert two lists into a dictionary. (B)
LAB-9	**Working with Function in python.** 1. Write a program to calculate simple interest using a function. (A) 2. Write a program that defines a function to add first N numbers. (A) 3. Write a program to find the maximum number from the two given numbers using a function. (A)

	4. Write a program to take a string from the user & pass it as an argument an convert all lowercase characters into uppercase using a function. (A) 5. Write a program to find the factorial of a given number using function. (A) 6. Write a program to generate a fibonacci series using a function. (e.g. 0 1 1 2 3 5 8..). (A) 7. Write a program to implement a simple calculator using the lambda function. (A) 8. Write a program that defines a function that returns 1 if the number is prime otherwise return 0. (B) 9. Write a program to find the factorial of a given number using recursion. (B) 10. Write a program to generate a fibonacci series of a given number N using recursion. (B)
LAB-10	**Working with Files in python.** 1. Write a program to read a file named firstfile.txt. (A) 2. Write a program to read the first 5 lines from the file named firstfile.txt. (A) 3. Write a program to read only special characters from a file. (A) 4. Write a program to read file line by line and store lines as a list. (A) 5. Write a program to write N lines in a new file. (A) 6. Write a program to write 5 student records (Rollno, StudentName, and Department) in the studentDetails.txt file. (A) 7. Write a program to find the longest word in a file named firstfile.txt. (B) 8. Write a program to find the file size named firstfile.txt. (B) 9. Write a program to append the content of the studentDetails.txt file by reading the student records from the user. (B) 10. Write a program to enter a file name and check it exists or not. Ask for user confirmation and delete the file. (B)
LAB-11	**Working with various Modules in Python.** 1. Write a program to create a calculator module that defines functions like addition, subtraction, multiplication, and division. Create another file that uses the calculator module. (A) 2. Write a program to pick a random character from a given string. (A) 3. Write a program to demonstrate the use of the math module. (A) 4. Write a program to demonstrate the use of the date-time module. (A) 5. Write a program to create a custom module to find the factorial of a given number. (A) 6. Write a program to pick a random element from a given list. (B) 7. Write a program to calculate the circle, triangle, and rectangle area using the math module. (B) 8. Write a program to print the current date and time. (B)

	9. Write a program to find the day of the week of a given date. (B) 10. Write a program to print the person's age in years and also print how many days remain for the next birthday. (B) 11. Write a program to create a custom module to define a function to check for odd or even number. (B)
LAB-12	**Working with Class,Object & Polymorphism.** 1. Write a program to create a class named Student, and initialize attributes like Enrollment_No, Student_Name, Gender, and Department while creating an object. (A) 2. Create a class named Shape. Create three subclasses of the Shape class named Circle, Triangle, and Square which contain CalculateArea, and DisplayArea methods. Write a program to display the area of all three classes. (A) 3. Create a class named Bank_Account with Account_No, User_Name, Email, Account_Type and Account_Balance data members. Also, create a method GetAccountDetails() and DisplayAccountDetails(). Create the main method to demonstrate the Bank_Account class. (B)
LAB-13	**Exception Handling.** 1. Write a program to implement a calculator that performs basic operations (addition, subtraction, multiplication, division). Handle exceptions like division by zero, invalid operator input, etc. (A) 2. Write a program to check whether a person is eligible to donate blood. Takes age and weight from the user. Blood donation criteria are age should be greater than 18 years and weight should be greater than 50kg. Raise the ValueError exception for invalid input and create a custom exception if the above-mentioned criteria don't match. (A) 3. Write a program that divides two numbers and raises a custom exception if the user tries to divide by zero. (B)