

**B.E / B.Tech. PRACTICAL END SEMESTER EXAMINATIONS, JANUARY 2022**

First Semester

**GE3171 & PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY**

(Regulations 2021)

Time : 3 Hours

Answer any one Question

Max. Marks 100

**(To be filled by the question paper setter)**

<b>Aim/Principle/Apparatus required/Procedure</b>	<b>Tabulation/Circuit/ Program/Drawing</b>	<b>Calculation &amp; Results</b>	<b>Viva-Voce</b>	<b>Record</b>	<b>Total</b>
			<b>10</b>	<b>10</b>	<b>100</b>

1.	<p>a) Write a Python program to calculate the weight of the steel bar and develop a flow chart for the same.</p> <p>b) Write a Python program to calculate the values of n variables</p>
2.	<p>a) Write a Python program to print the below Pyramid</p> <pre> * * * * * * * * * * * * * * *</pre> <p>b) Write a Python program to calculate Simple Interest, Compound Interest</p>
3.	<p>a) Write a Python Program to get the 5 bank customer account details with balance and print only the customer details whose balance is greater than or equal to 10000</p> <p>b) Write a python program to define a module to find Fibonacci Numbers and import the module to another program.</p>
4.	<p>a) Write a Python program that prints out the decimal equivalents of 1/2, 1/3, 1/4, . . . , Using for loop</p> <p>b) Write a Python Program to print the Following number Pattern</p> <pre> 55555 4444 333 22</pre>

	1
5.	<p>a) Write a Python program to Remove the Duplicate Element in the Tuple</p> <p>b) Write a Python script to print a dictionary where the keys are numbers between 1 and 15 and the values are square of keys</p> <p>Sample Dictionary {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}</p>
6.	<p>a)Write a Python Program to Capitalize each word in a given String</p> <p>b) Write a Python program to create a dictionary from a string and count the letters from the string. Sample string : 'ENGINEERING' Expected output: {'E': 3, 'N': 3, 'G': 2, 'I': 2, 'R': 1}</p>
7.	<p>a) Write a Python Program to Calculate the Weight of the Motor Bike.</p> <p>b) Write a Python Program to raise ZeroDivisionError if the User enters 0 as numerator or Denominator value.</p>
8.	<p>a) Write a Python program that accepts a comma separated sequence of words as input and prints the unique words in sorted form.</p> <p>b) Write a Python program to print the sum of first 100 odd numbers.</p>
9.	<p>a) Write a python program to that accepts length of three sides of a triangle as inputs. The program should indicate whether or not the triangle is a right angled triangle (use Pythagorean theorem):</p> <p>b) Write a Python Program to Print all Prime numbers less than 50.</p>
10.	<p>a) Define a function fact and write a python Script to find the factorial of a number</p> <p>b) Write a Python Program to implement the following Python tuple operation</p>

	<p>i) Create a Tuple</p> <p>ii) Find the length of the Tuple</p> <p>iii) find the maximum and minimum element in the tuple</p>
11.	<p>a) Write a program to create a menu with the following options</p> <p>1.ADDITION OPERATION</p> <p>2.SUBTRACTION OPERATION</p> <p>3.MULTIPLICATION OPERATION</p> <p>4.DIVISION OPERATION</p> <p>Accepts users input and perform the operation accordingly.</p> <p>b) Write a Python Program to Compute Electrical current in a three Phase Electrical Circuit</p>
12.	<p>a) Write a Python Program to find the Third Largest number in a given list using Functions.</p> <p>b) Write a Python program to implement the following python List operation</p> <p>i) Inserting the element at the specified positions</p> <p>ii) Remove the element in the List</p> <p>iii) Delete the entire List</p> <p>iv) Position of the particular Element in a Given List</p>
13.	<p>a) Write a Python function to reverse a string if its length is a multiple of 3.</p> <p>b) Write a Python Program to count the number of Words present in a text file.</p>
14.	<p>a) Create three text file such as "source1.txt", "source2.txt", in read mode, "target.txt" in write mode and write a Python Script to copy the content of "source1.txt", "source2.txt", and write the content in "target.txt" file.</p> <p>b) Write a Python code to get the voters age as input. If the user Enters a Valid age as input Display the Result otherwise Raise the Exception.</p>

15.	<p>a) Create a dictionary and apply the following operations</p> <ol style="list-style-type: none"> <li>1) Print the dictionary elements</li> <li>2) Access the dictionary elements</li> <li>4) Change values of the dictionary</li> <li>5) Calculate the Length of the Dictionary</li> </ol> <p>b) Write a Python program to display the current date and time. In the Following format. .: 2022-06-06 15:35:15.</p>
16.	<p>a) Write a Python program to append text to a file and display the text in the output screen.</p> <p>b) Write a Python program which accepts the user's first and last name and print them in reverse order with a space between them.</p>
17.	<p>a) Develop a car race game using Pygame.</p> <p>b) Write a Python Script to calculate area of a circle.</p>
18.	<p>a) Write a NumPy program to test whether any of the elements of a given array is non-zero.</p> <p>b) Write a Python program to find the longest words in a file.</p>
19.	<p>a) Write the Python program To compute <math>\sin(x)</math> using the below given Formula</p> $\sin x = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \frac{x^9}{9!} \dots\dots\dots$ <p>b) Write a Python program to Exchange the Values of two Variables.</p>
20.	<p>a) Simulate Bouncing Ball Using Pygame.</p> <p>b) Write a Python Script to Check whether a given Number is odd or Even.</p>