

## XI COMPUTER SCIENCE PRACTICAL LIST

S.No.	Unit Name	Marks (Total=30)
1.	<b>Lab Test (12 marks)</b>	
	Python program (60% logic + 20% documentation + 20% code quality)	<b>12</b>
2.	<b>Report File + Viva (10 marks)</b>	
	Report file: Minimum 20 Python programs	<b>7</b>
	Viva voce	<b>3</b>
3.	Project (that uses most of the concepts that have been learnt)	<b>8</b>

S.No.	Aim/Title	Date of practical	Page No.	Signature																		
1.	<b>Introduction to Computer System Organization (Draw &amp; explain functional diagram of computer and explain the I/P , O/P Devices, software, hardware, memory and operating system)</b>																					
2.	<b>Introduction to python programming language ( write about the python history installation and features of python &amp; various python interpreter)</b>																					
3.	<b>Write a python program to Input a welcome message and display it.</b>																					
4.	<b>Write a python program to Input two numbers and display the larger / smaller number.</b>																					
5.	<b>Write a python program to Input three numbers and display the largest / smallest number.</b>																					
6.	<b>Write a python program to input two integers x and n, compute <math>x^n</math></b>																					
7.	<b>Write a python program to Generate the following patterns using nested loop.</b>																					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Pattern-1</th> <th style="text-align: center;">Pattern-2</th> <th style="text-align: center;">Pattern-3</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">*</td> <td style="text-align: center;">1 2 3 4 5</td> <td style="text-align: center;">A</td> </tr> <tr> <td style="text-align: center;">**</td> <td style="text-align: center;">1 2 3 4</td> <td style="text-align: center;">AB</td> </tr> <tr> <td style="text-align: center;">***</td> <td style="text-align: center;">1 2 3</td> <td style="text-align: center;">ABC</td> </tr> <tr> <td style="text-align: center;">****</td> <td style="text-align: center;">1 2</td> <td style="text-align: center;">ABCD</td> </tr> <tr> <td style="text-align: center;">*****</td> <td style="text-align: center;">1</td> <td style="text-align: center;">ABCDE</td> </tr> </tbody> </table>	Pattern-1	Pattern-2	Pattern-3	*	1 2 3 4 5	A	**	1 2 3 4	AB	***	1 2 3	ABC	****	1 2	ABCD	*****	1	ABCDE			
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8.	<b>Write a python program to input the value of x and n and print the sum of the following series:</b>																					

	<p>i) <math>1+x+x^2+x^3+x^4+\dots\dots\dots x^n</math></p> <p>ii) <math>1-x+x^2-x^3+x^4+\dots\dots\dots x^n</math></p> <p>iii) <math>x + x^2 /2- x^3 /3+ x^4 /4+ \dots\dots\dots x^n/n</math></p> <p>iv) <math>x + x^2 /2!- x^3 /3!+ x^4 /4!+ \dots\dots\dots x^n/n!</math></p>			
9.	Write a python program to determine whether a number is a perfect number, an Armstrong number or a palindrome.			
10.	Write a python program to Input a number and check if the number is a prime or composite number.			
11.	Write a Python Program to print Fibonacci series up to the entered n positive number.			
12.	Write a Python Program to Compute the greatest common divisor(GCD/HCF) and least common multiple (LCM) of two Integers.			
13.	Write a Python Program to Count and display the number of vowels, consonants, uppercase, lowercase characters in string.			
14.	Write a Python Program to Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.			
15.	Write a Python Program to find the largest/smallest number in a list/tuple and displaying the position of that number			
16.	Write a Python Program to Input a list of numbers and swap elements at the even location with the elements at the odd location.			
17.	Write a Python Program to Input a list/tuple of elements, search for a given element in the list/tuple and frequency and position of search element.			
18.	Write a Python Program to Input a list of numbers and test if a number is equal to the sum of the cubes of its digits. Find the smallest and largest such number from the given list of numbers.			
19.	Write a Python Program to Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have marks above 75.			
20.	Write a Python Program to Create a dictionary of employee information (empid, empname,empsal,empmobile), input five values from the user and display the employee who is getting salary less than or equal to Rs. 50000.			

21.	Write a Python Program to Create a dictionary of Library information (bookid, bookname, bookprice, bookauthor), input five values from the user and display the library, also change some values by searching the bookname in this dictionary.			
22.	Write a Python Program to Create a hotel dictionary (bookingid, clientname, date, roomno) delete a value based on bookingid.			
23.	Write a Python Program to implement python maths function/method (pi, e, sqrt, ceil,floor, pow, fabs, sin, cos, tan) using math module.			
24.	Write a Python program to implement the random function random, randint, Randrange using random module.			
25.	Write a Python program to implement the statistics functions (mean, median, mode) using statistics module.			

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