XI – CS PRACTICAL AND SOLTIONS 2020-21
As Per CBSE Revised Syllabus

S. No.	Area	Particulars	Total Marks 30
1	20 Python Programs (60% logic+20% documentation + 20% Code quality	2 Questions in Exam. For 12 Marks	12 Marks
2	Report File – 20 Programs Min	Practical Record	7 Marks
3	Viva Voice	On practical Record	3 Marks
4	Project Work	Based on Concepts Learns	8 Marks
		TOTAL	**30 Marks**

1. Input a welcome message and display it.
2. Input two numbers and display the larger / smaller number.
3. Input three numbers and display the largest / smallest number.
4. Given two integers x and n, compute x^n.
5. Write a program to input the value of x and n and print the sum of the following series:
   - I. $1.x^0+x^1+x^2+x^3$ ……..x^n
   - II. $1.x^0-x^1+x^2-x^3+x^4$……..x^n
   - III. $\frac{x^1}{1}+\frac{x^2}{2}-\frac{x^3}{3}+\frac{x^4}{4}-\cdots\ldots\ldots\ldots+.\frac{x^n}{n}$
   - IV. $\frac{x^1}{1!}+\frac{x^2}{2!}-\frac{x^3}{3!}+\frac{x^4}{4!}-\cdots\ldots\ldots\ldots.+\frac{x^n}{n!}$
6. Determine whether a number is a :
   a) **perfect number** (positive integer that is equal to the sum of its positive divisors, excluding the number itself. For instance, 6 has divisors 1, 2 and 3 (excluding itself), and 1 + 2 + 3 = 6, so 6 is a perfect number.) ,
   b) an Armstrong number or ($153= 1^3+5^3+3^3= 1+125+27=153$)
   c) apalindrome. (5335 = 5335 , 1001=1001, 189≠981)
7. Input a number and check if the number is a prime or composite number.
8. Display the first nterms of a Fibonacci series.
9. Compute the greatest common divisor and least common multiple of twointegers.

10. Count and display the number of vowels, consonants, uppercase, lowercasecharacters in string.
11. Input a string and determine whether it is a palindrome or not; convert thecase of characters in a string.
12. Find the largest/smallest number in a list/tuple
13. Input a list of numbers and swap elements at the even location with the elements at the odd location.
14. Input a list/tuple of elements, search for a given element in the list/tuple.
15. Input a list of numbers and test if a number is equal to the sum of the cubes ofits digits. (Same as arm strong) – 6 b
16. Create a dictionary with the roll number, name and marks of n students in aclass and display the names of students who have marks above 75.
17. Write a Program to Print the following pattern

*	1	1#	1
**	12	1#2#	12
***	123	1#2#3#	123
****	1234	1#2#3#4#	1234
*****	12345	1 #2#3#4#5#	12345

18. Write a program to store makrs of students in two different lists find whether they are identical or not
19. Write a program to count frequency of a character in a string
20. Write a program for number guessing game and give 3 chance to guess the randomly generate number between 1,100