

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SUBJECT: COMPUTER SCIENCE (COMS)

CLASS – XII

PRACTICAL

FULL MARKS: 30

1.	MYSQL	10 Marks
	<ul style="list-style-type: none"> Table creation 3 Marks Data insertion in table 2 Marks 2 Queries 5 Marks 	
2.	Python Program	12 Marks
	<ul style="list-style-type: none"> Coding 9 Marks Output 3 Marks 	
3.	Lab Book	3 Marks
4.	Viva	5 Marks

Suggested Practical List

List of Suggestive Python Programs

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loops:

Pattern-1

```
*
**
***
****
*****
```

Pattern-2

```
12345
1234
123
12
1
```

Pattern-3

```
A
AB
ABC
ABCD
ABCDE
```

- Write a program to input the value of x and n and print the sum of the following series:

$$\Rightarrow 1 + x + x^2 + x^3 + x^4 + \dots x^n$$

$$\Rightarrow 1 - x + x^2 - x^3 + x^4 - \dots x^n$$

$$\Rightarrow x + \frac{x^2}{2} + \frac{x^3}{3} + \frac{x^4}{4} + \dots \frac{x^n}{n}$$

$$\Rightarrow x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots \frac{x^n}{n!}$$

- Determine whether a number is a perfect number, an Armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.

- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- 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.
- Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).

Database Management System

- Create a student table and insert data. Implement the following SQL commands on the student table:
 - o ALTER table to add new attributes / modify data type / drop attribute
 - o UPDATE table to modify data
 - o ORDER By to display data in ascending / descending order
 - o DELETE to remove tuple(s)
 - o GROUP BY and find the min, max, sum, count and average.
 - o LIKE, DISTINCT, NOT IN, IN, JOIN, CARTISIAN PRODUCT SET DIFFERENCE, UNION, INTERSECTION etc.