ASSIGNMENT NO. 2

SUBJECT: COMPUTER SCIENCE   **CLASS-XII**   **MAY,2025**

CH 3: WORKING WITH FUNCTIONS

1. What is the difference between a built-in function and a user-defined function? Give examples.
2. Define a function. Why are functions useful in programming?
3. Differentiate between **local** and **global** variables with an example.
4. What will be the output of the following code?

```
def test(a=5, b=10):
print(a, b)
test()
test(3)
test(7, 8)
```

5. Write a function in Python that takes a string as an argument and returns the number of vowels in it.
6. Write a Python program with a function that accepts a number and returns `True` if it is prime, else `False`.
7. Define the terms:
   (i) Function definition
   (ii) Function call
   (iii) Function return value
8. Write a Python function that takes two numbers and returns their highest common factor (HCF).
9. What is the difference between **positional arguments** and **keyword arguments** in Python functions? Illustrate with examples.
10. Write a function that accepts a number and prints its multiplication table.
11. Write a program using a user-defined function to calculate the factorial of a number using recursion.
12. Write a function that takes a list of numbers and returns the maximum and minimum numbers from the list.
13. Explain the scope of a variable in a function with an example.
14. Write a function that counts and returns the number of uppercase and lowercase letters in a string.
15. Write a Python program using functions to accept marks in five subjects and return the percentage and grade of a student based on the following criteria:

- Grade A: >= 90%
- Grade B: >= 75% and < 90%
- Grade C: >= 60% and < 75%
- Grade D: < 60%