Python Practice Questions (50 Moderate-Level)

1. String (5 Questions)

1. Check if a given string is a palindrome.
2. Count the number of vowels in a string and store the result in a dictionary.
3. Convert the first letter of each word in a string to uppercase (title case manually).
4. Find the most frequently occurring character in a string.
5. Count digits, alphabets, and special characters separately in a string.

2. List (5 Questions)

6. Remove duplicate elements from a list without using set().
7. Reverse a list without using built-in functions.
8. Find the 2nd largest and 2nd smallest element in a list.
9. Store the square of each element of a list into a new list (using list comprehension).
10. Flatten a nested list into a single list.

3. Tuple (5 Questions)

11. Reverse a tuple without using [::-1].
12. Extract unique elements from a tuple and store them in a new list.
13. Concatenate two tuples and sort them.
14. Count the frequency of an element in a tuple without using count().
15. From a tuple of numbers, create two tuples: one with even numbers and one with odd numbers.

4. Set (5 Questions)

16. Perform union, intersection, and difference of two sets without using built-in operators.
17. Remove a random element from a set (without using pop()).
18. Convert a list into a set and check if duplicates are removed.
19. Check if two sets are disjoint.
20. Find the sum of all elements in a set.

5. Dictionary (5 Questions)

21. Create a dictionary and print keys in ascending order.
22. Add a new key to a dictionary with value equal to the sum of existing values.
23. Merge two dictionaries into one.
24. Find the key with the largest value in a dictionary.
25. Store the frequency of characters of a string in a dictionary.

6. Conditional Statements (5 Questions)

26. Take age as input and check if the person is eligible to vote or not.
27. Find the largest among three numbers (using nested if).
28. Check if a given number is prime or not.
29. Assign grade (A, B, C, Fail) based on marks input.
30. Check if a number is positive, negative, or zero.

7. Loops – For & While (5 Questions)

31. Print the first 10 numbers of the Fibonacci series using for loop.
32. Find the factorial of a number using while loop.
33. Input a number and find the sum of its digits using while loop.
34. Print all elements of a list in reverse order without using reverse().
35. Print a star pattern (triangle) using nested loops.

8. File Handling (5 Questions)

36. Write some text into a file and then read and print it.
37. Count the total number of lines in a file.
38. Count vowels and consonants in a file.
39. Convert the content of a file into uppercase and store it in another file.
40. Read a CSV file and print its rows.

9. OS Module (5 Questions)

41. Print the current working directory using os module.
42. Create a new folder using os module and create a file inside it.
43. List all files and folders inside a directory.
44. Check the size of a file using os module.
45. Count all .txt files in a directory.

10. Try-Exception (5 Questions)

46. Write a program that takes user input and prints its square. Handle errors if input is invalid.
47. Handle ZeroDivisionError with an example program.
48. Handle FileNotFoundError with an example program.
49. Handle both ValueError and TypeError with an example.
50. Write a program with finally block that opens and closes a file.