QUESTION PAPER FOR BCA

1. Write a Python program to check whether a given number is prime or not. Hint: A prime number has no divisors other than 1 and itself.

2. Write a program to find the factorial of a number without using recursion. Hint: Use a loop to multiply numbers from 1 to n.

3. Take a string input and count how many vowels are present in it. Hint: Check each character against a, e, i, o, u.

4. Write a program to reverse a number without converting it to a string. Hint: Use modulo % and integer division //.

5. Check whether a given string is a palindrome or not. Hint: Compare the string with its reverse.

6. Write a Python program to print Fibonacci series up to N terms. Hint: Start with 0 and 1, then repeat: next = sum of previous two.

7. Write a program to find the second largest element in a list. Hint: Sort the list or remove the max and find new max.

8. Given a list of numbers, count how many numbers are even and how many are odd. Hint: Use % 2 condition.

9. Write a program to remove duplicate values from a list. Hint: Use a set or manually check before appending.

10. Take a list and shift its elements to the right by 1 position. Hint: Last element becomes first.

11. Write a program to check if two strings are anagrams. Hint: Sort both strings and compare.

12. Convert a decimal number to binary manually (without using built-in bin() function). Hint: Repeated division by 2.

13. Write a program to count the frequency of each character in a string. Hint: Use a dictionary.

14. Take a list of integers and print the largest contiguous sum. Hint: Track current sum and max sum.

15. Program to swap two numbers without using a third variable. Hint: Use arithmetic or tuple swap.

16. Check whether a number is Armstrong or not. Hint: Sum of each digit raised to number of digits.

17. Write a program to display all numbers between two given numbers divisible by both 3 and 5. Hint: Use num % 15 == 0.

18. Take a sentence and count how many words it contains. Hint: Split string by spaces.

19. Write a program to remove all occurrences of a character from a string. Hint: Use replace or build result manually.

20. Find the smallest number in a list without using min(). Hint: Compare elements manually.

21. Write a program to check whether a given number is perfect or not. Hint: Sum divisors except itself.

22. Print numbers from 1 to 100 with FizzBuzz conditions. Hint: Use if-elif.

23. Reverse the words of a sentence but not the letters. Hint: Split, reverse list, join.
24. Write a program to sort a list without using sort(). Hint: Use bubble or selection sort.
25. Count how many digits are in a number. Hint: Use loop and division.
26. Take a list and find the product of all its elements. Hint: Multiply in a loop.
27. Write a program to find the GCD of two numbers. Hint: Use modulo approach.
28. Find the common elements between two lists. Hint: Use set intersection or membership test.
29. Write a program to check if a substring exists within a string. Hint: Use in keyword.
30. Print a star pattern increasing by one each line. Hint: Use nested loops.