Guidelines for Test

General Rules

1. You will be assigned a system. Do not change or exchange systems.
2. Mobile phones, smart watches, and external devices are not allowed. Keep them switched off or handed over if asked.
3. You may only use the applications provided for the test. Opening any other programs, browsers, or files is prohibited.
4. Maintain silence throughout the test.
5. The total duration of the test is 2 hours.
6. No extra time will be given once the test ends.
7. Read all problem statements carefully before you start coding.
8. You may solve the questions in any order.
9. Test your code with the sample inputs.
10. Optimize your solution if time permits.
11. Save your work regularly.
12. Submit each solution on the test platform before the timer ends.
13. Ensure all your solutions are submitted.

Conduct & Discipline

14. Any attempt to copy, communicate, or use unauthorized material will result in immediate disqualification.
15. Do not attempt to switch windows or minimize the test screen.
16. If you face a technical issue, raise your hand and wait for the invigilator.
17. Rough sheets (if provided) must be returned at the end of the test.

Programming Questions

A. Two Questions attempt is must out of four (Q1 to Q 4)

C/C++ Programming

Q1. Given a string(lowercase), find the first non-repeating character, Input: s = "racecar" Output: 'e' Explanation: 'e' is the only character in the string which does not repeat.

Q2. Remove duplicate numbers from a linked list and just keep one copy

Q3. Given an array of integers, check if it can be divided into two subsets with equal sum**.**

Q4. Write a program to print the elements of a given 2D matrix in spiral order (clockwise).

B. One Question attempt is must out of three (Q 5 to Q 7)
C/C++/Java

Q5. Write a program to implement a custom blocking queue using wait() and notify().

Q6. Given a number, repeatedly sum its digits until you get a single digit**.**

Example: 9875 → 9+8+7+5=29 → 2+9=11 → 1+1=2.

Q7. Convert an integer into its word representation (e.g., 123 → One Hundred Twenty Three).

C. One Question attempt is must out of three (Q 8. To Q 10.)

Q 8 : Given a list of numbers convert them into a pallindromic link list

Example: [1, 5, 7, 11, 9] Pallindromic link list: 1 -> 5 -> 7 -> 11 -> 9 -> 11 -> 7 -> 5 -> 1

Make sure the program has separate functions for insertion of a new node in pallindromic link list, deletion of node of link list such that the pallindromic nature of link list does not change

Q 9 : Create a function which takes integer value as a number and returns the count of number of bits set in the binary representation of that number.

Q10: Count the number of ways one can travel to N steps if one can only move either 1 step or 2 step at a time