Submission: Wednesday, 25 September, 2024 by 11:59 pm
(**Hand-written** answers with **screenshot** of output - Submit in **ELMS**)

Q.1 a) Show the **manual tracing** for the **array A** elements. **[5]**

```
int A[4]={0};

int i, n;

n = LAST_FOUR_DIGITS_OF_YOUR_STUDENT_ID;

for(int i=0; i<4; i++){

        A[i] = n+i;

        if(A[i]%2 != 0){

                A[i] *= 2;

        }

}
```

b) **Rewrite** the code in **Q.1(a)** by **replacing** the "**for**" **loop** with a "**do…while**" **loop** without changing the logical meaning. **[3]**

Q.2 Write a **C program** to perform the following operations. **[6]**

a) Assign (**LAST_TWO_DIGITS_OF_YOUR_STUDENT_ID** % 21) + **5** to integer variable *b*.

b) **Declare** a one-dimensional integer **array *A* of size 10**.

c) **Initialize** the array values with **a%7 + 3i**, Where a = **LAST_4_DIGITS_OF_YOUR_STUDENT_ID** and i = array index.

d) Find the **sum of the numbers** that are stored in **even numbered indices** in the array.

Q.3 Suppose, a = (LAST_2_DIGITS_OF_YOUR_STUDENT_ID%3) + 2. **Manually trace** the following code snippet and **find the final content** of the 2D array **arr** after the execution of the code. **[6]**

```
int arr[5][5], i, j, t1 = 0, t2 = 1, t3, x, y, z;
for(i=0; i<a; i++) {
    x = t1, y = t2, z = t1+t2;
    for(j=0; j<a-1; j++) {
        t3 = t1 + t2;
        arr[j][i] = t3;
        t1 = t2;
        t2 = t3;
    }
    t1 = y;
    t2 = z;
}
```