H Roll No. .....

TMC–401

M. C. A. (FOURTH SEMESTER)
MID SEMESTER
EXAMINATION, March, 2024
GRAPHICS AND VISUAL COMPUTING

Time : 1½ Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing any ***one*** of the sub-questions.

(ii) Each sub-question carries 10 marks.

1. (a) Implement the DDA line algorithm in C Programming. (CO1)

OR

(b) Draw a line from (1, 1) to (8, 7) using DDA and BLA algorithms. (CO1)

2. (a) Compare 2D and 3D Scaling Matrix. (CO1)

OR

(b) Compare 2D Translation Matrix and 2D Reflection Matrix. (CO1)

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3. (a) Compare point clipping and line clipping. Demonstrate the concept of line clipping. (CO2)

OR

(b) Design and implement the Boundary fill algorithm in C Programming. (CO2)

4. (a) Perform a 45 degree rotation of a triangle A (0, 0), B (1, 1) and C (5, 2) : (CO2)

(i) About the origin

(ii) About the point P (– 1, – 1)

OR

(b) Given a square with coordinate points A (0, 3), B (3, 3), C (3, 0), D (0, 0). Apply the translation with distance 1 towards X-axis and 1 towards Y-axis. Evaluate the new coordinates of the square. (CO2)

5. (a) Implement the Cohen-Sutherland algorithm in C Programming. (CO2)

OR

(b) Compare Parallel and Perspective projection with diagram. (CO2)