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BENGALURU
School of Computer Science and Engineering
Mid - Term Examinations – November 2024

Semester: III

Date: 06-11-2024

Course Code: CSE2066

Time: 11.45am to 01.15pm

Course Name: Computer Graphics

Max Marks: 50

Program: Computer Science and Engineering

Weightage: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

5Qx2M=10M

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|---|---|---------|----|-----|
| 1 | Define Computer graphics. List applications of computer graphics. | 2 Marks | L1 | CO1 |
| 2 | Outline raster scan and random scan systems. | 2 Marks | L1 | CO1 |
| 3 | Define DDA. List the disadvantages of DDA algorithm. | 2 Marks | L1 | CO1 |
| 4 | Describe translation. Mention 2D translation matrix. | 2 Marks | L1 | CO2 |
| 5 | Draw 2D Viewing Pipeline Architecture. | 2 Marks | L1 | CO2 |

Part B

Answer ALL Questions. Each question carries 10 marks.

4QX10M=40M

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|---|--|----------|----|-----|
| 6 | List different types of display devices. Explain CRT and color CRT monitors with neat diagram. | 10 Marks | L1 | CO1 |
|---|--|----------|----|-----|

Or

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| 7 | Explain four different types of input and output devices with its advantages and disadvantages. | 10 Marks | L1 | CO1 |
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8 Explain DDA algorithm and draw a line using DDA algorithm from (2, 3) and (9, 8). 10 Marks L1 CO1

Or

9 Illustrate Bresenham's circle drawing algorithm. Given the center point coordinates (0, 0) and radius as 10, generate all the points to form a circle using Bresenham's circle drawing Algorithm 10 Marks L2 CO1

10 Define Rotation. Write down 2D rotation matrix for clockwise and anticlockwise. Given a line segment with starting point as (0, 0) and ending point as (4, 4). Apply 45 degree rotation anticlockwise direction on the line segment and calculate the new coordinates of the line. 10 Marks L2 CO2

or

11 Using homogeneous coordinates, rotate a triangle ABC by an angle 90 degree clockwise direction about a point(-1,1), where the triangle has the coordinates A(5,0),B(10,2) and C(7,4). 10 Marks L3 CO2

12 Explain Cohen-Sutherland Line clipping algorithm. Let ABCD be the rectangular window with A(20, 20), B(90,20),C(90,70) and D(20,70). Find the region code for the end points and use Cohen Sutherland algorithm to clip line P1 (10, 30) and P2(80,90). 10 Marks L2 CO2

Or

13 Explain 2D dimensional Sutherland-Hodgman polygon clipping with an example. Summarize the four cases of polygon clipping. 10 Marks L2 CO2