

Course Code	: 2101CS522	Date	: 03-11-2023
Course Name	: Computer Graphics	Duration	: 150 Minutes
		Total Marks	: 70

Instructions:

1. Attempt all the questions.
2. Figures to the right indicates maximum marks.
3. Make suitable assumptions wherever necessary.

- Q.1 (A)** Define Computer Graphics. List the applications of computer graphics. **4**
- (B)** Write short note on display devices. **3**

OR

List advantages and disadvantages plasma panel display.

- (C)** List various techniques used for display graphics in computer. Explain CRT display with the help of diagram. **7**

OR

Give the difference between Random Scan and Raster Scan.

- Q.2 (A)** What are the characteristics of line drawing algorithm? Discuss the disadvantage of DDA line drawing algorithm. **4**
- (B)** Write Bresenham's line drawing algorithm. **3**

OR

Explain properties of circle.

- (C)** Discuss midpoint circle algorithm with example. **7**

OR

Give advantages and disadvantages of DDA algorithm. Draw a line from (0,0) to (8,4) using DDA algorithm.

- Q.3 (A)** Explain inside-outside tests. **4**
- (B)** Enlist methods of character generation. Explain any one in detail. **3**

OR

Explain Even Odd method with example.

- (C)** What is aliasing? Briefly explain anti-aliasing techniques. **7**

OR

Explain boundary fill and flood fill for polygon filling.

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|------------|------------|---|----------|
| Q.4 | (A) | Explain rotation in 2D transformations. | 4 |
| | (B) | What is the difference between Window and ViewPort? | 3 |

OR

Write a note on 2D shearing.

- (C) Prove that the multiplication of 2D transformation matrices for each of the following sequence of operations is commutative: 7
- 1) Two successive rotations
 - 2) Two successive translations

OR

Explain basic 2D transformations in details.

- | | | | |
|------------|------------|---|----------|
| Q.5 | (A) | What is projection? List out various types of projection. | 4 |
| | (B) | Write a note on 3D Translation. | 3 |

OR

Briefly explain 3D scaling and rotation.

- (c)** Explain following color model: **7**
- 1) YIQ color model.
 - 2) XYZ Color model.

OR

Explain following color model:

- 1) RGB color model.
- 2) CMY Color model
