Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 07-10-2025 **Time:** 09.30am to 11.00am

School: SOCSE	**Program:** B Tech (COM)	
Course Code: CSE2066	**Course Name**: Computer Graphics	
Semester: V	**Max Marks**: 50	**Weightage**: 25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**26**	**24**			

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. **5Q x 2M=10M**

1	List the difference between interactive and non-interactive computer graphics with example	**2 Marks**	**L1**	**CO1**
2	Define pixel	**2 Marks**	**L1**	**CO1**
3	Define DDA. List the disadvantages of DDA algorithm.	**2 Marks**	**L1**	**CO1**
4	Give matrix representation for 2D Translation, Rotation, Scaling	**2 Marks**	**L1**	**CO2**
5	Draw 2D Viewing Pipeline Architecture.	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **Total Marks 40M**

6.	**a.**	With Bresenham's circle drawing algorithm, Given the center point coordinates (1, 1) and radius as 8, generate all the points to form a circle.	**10 Marks**	**L2**	**CO1**
	b.	List different types of display devices. Explain CRT and color CRT monitors with neat diagram.	**10 Marks**	**L2**	**CO1**
		Or			
7.	**a.**	Explain with steps of DDA line drawing algorithm and explain how this algorithm digitizes the line p1(6,15) and p2(10, 20) find out the points.	**10 Marks**	**L2**	**CO1**
	b.	Explain four different types of input and output devices with its advantages and disadvantages.	**10 Marks**	**L2**	**CO1**

8.	**a.**	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**
	b.	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**	**L2**	**CO2**
		Or			
9.	**a.**	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**
	b.	Explain 2D dimensional Sutherland-Hodgman polygon clipping with an example. Summarize the four cases of polygon clipping	**10 Marks**	**L2**	**CO2**