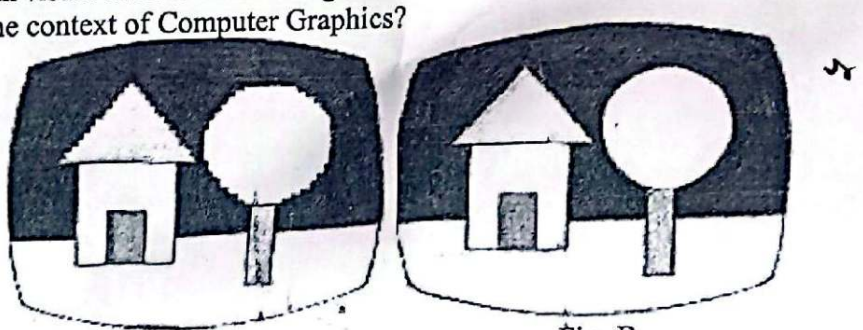
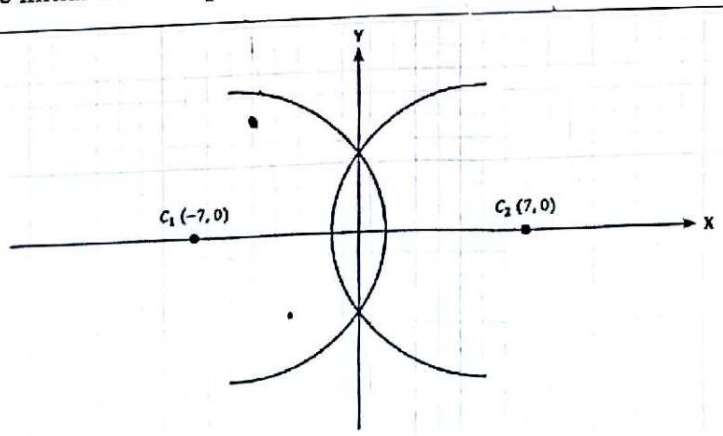
Daffodil International University

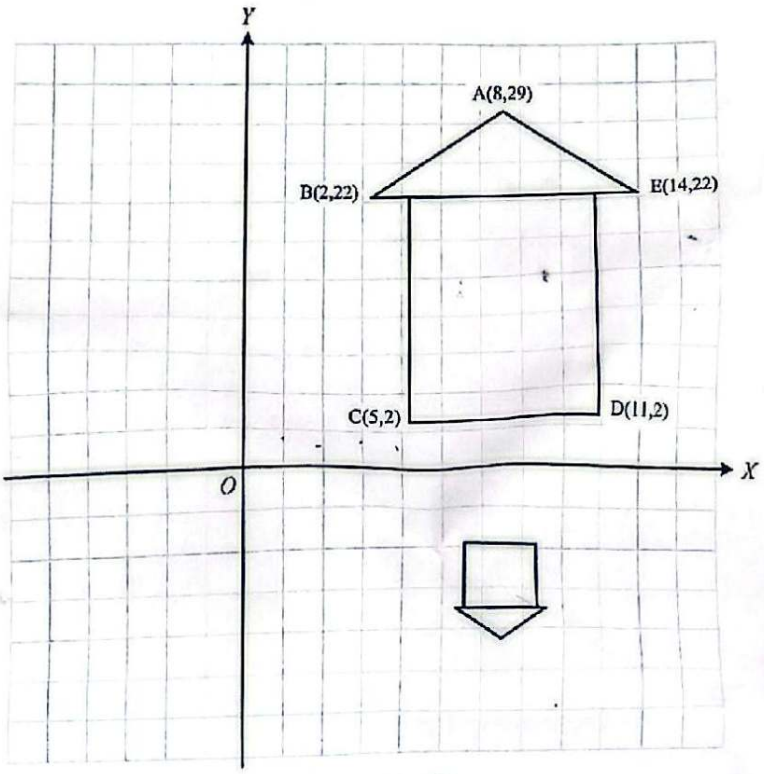
Faculty of Science & Information Technology
Department of Computer Science & Engineering
Midterm Examination, Summer2026
Course Code: CSE411, Course Title: Computer Graphics
Level: 3 Term: 1 Batch: 65

Time: 01:30 Hrs **Marks: 25**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	*a)*	Explain the fundamental working principle of the Beam Penetration Method and the Shadow Mask Method in CRT displays. How does each method control color generation?	[2]	CO1
	b)	Explain visual defects occur in Fig- A. How can you transform figure A to figure B in the context of Computer Graphics?  Fig- A Fig- B	[3]	
2.	*a)*	Derive the initial decision parameter of mid-point circle drawing algorithm.	[3]	CO2
	b)	 Fig-C Assume both circles have radius r = 9 units. The center of Circle C_1 is at (–7, 0) and the center of Circle C_2 is at (7, 0). Now, analyze circle Algorithm to determine the points of the 1st and 4th quadrant for C_1 also 2nd and 3rd quadrant for C_2 (As shown in the diagram above).	[7]	

3.	a)	Figure D shows an original object located in the first quadrant and, its transformed image in the fourth quadrant. The transformed image has been generated using a combination of two-dimensional transformations. Analyze the figure and determine: i) The transformations that have been applied. ii) The sequence of the transformations.  Fig: D	[3]	CO2
	b)	Consider the roof of Figure D, which consists of the line segments AB, BE, and EA. Apply Bresenham's Line Drawing Algorithm to generate the pixel coordinates for each line segment. Present the iteration table and the final set of pixels obtained for drawing the roof.	[7]	