(T(5th Sm.)-Computer Science-G/DSE-A-3/CBCS/Day-2)

2020

COMPUTER SCIENCE — GENERAL

Paper : DSE-A-3

(Computer Graphics)

Full Marks : 50

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words

as far as practicable.

Day 2

Answer question no. 1 and any four from the rest.

1.	Answer any five questions :	2×5
	(a) Define raster scan and vector scan.	
	(b) What do you understand by point clipping?	
	(c) Define pixel.	
	(d) Mention the importance of resolution in computer graphics.	
	(e) Write 3-dimensional rotation matrix (about x-axis).	
	(f) Define world coordinate.	
	(g) State the importance of homogeneous coordinate system.	
	(h) Write 2-dimension scaling matrix (about x-axis and about y-axis).	
2.	(a) Discuss Cohen-Sutherland line clipping algorithm.	
	(b) Discuss Sutherland-Hudgeman polygon clipping algorithm.	5+5
3.	(a) Find the transformation matrix for the following transformation :	
	Reflection of an object about the line $y = -x$.	
	(b) Prove that two consequtive translation is commutative.	5+5
4.	(a) Derive and discuss midpoint line drawing algorithm.	
	(b) Derive and discuss Digital Differential Analyzer.	5+5
5.	(a) Derive and discuss eight-point circle drawing algorithm.	
	(b) Derive and discuss midpoint circle drawing algorithm.	5+5

Please Turn Over

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6.	(a) Discuss the working principle of CRT monitor.	
	(b) Discuss the steps of animation in computer graphics.	5+5
7.	(a) Differentiate parallel projection and perspective projective.(b) Discuss about the classification of morphing.	5+5
8.	(a) Derive and discuss Bresenham's line drawing algorithm.	
	(b) Derive and discuss Bresenham's circle drawing algorithm.	5+5