

Total No. of Questions: 06

Total No. of Printed Pages: 02

PRN No.	
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PAPER CODE	U314-235-A(EST)
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(AY:2024-25) December 2024 (ENDSEM) EXAM  
TY B.TECH (SEMESTER - I)

COURSE NAME: COMPUTER  
GRAPHICS

Branch: COMPUTER  
ENGINEERING

COURSE CODE:  
CSUA31205A

(T.Y B.Tech PATTERN 2020)

Time: [1Hr 30 Min]

[Max. Marks: 40]

Instructions to candidates:

- 1) Figures to the right indicate full marks. Use of scientific calculator is allowed.
- 2) Use suitable data wherever required
- 3) All questions are compulsory. Solve any two sub-questions each from Questions 1 and 2
- 4) Solve any one sub-question (2 marks) from Questions 3,4,5, and 6, and a sub-question of 4 marks is compulsory from questions 3,4,5, and 6

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Explain the DDA Line Drawing Algorithm with an example.	[4]	1	[Understand]
	b) Define the following terms: 1) Pixel 2) Frame Buffer 3) Resolution 4) Aspect ratio.	[4]	1	[Understand]
	c) Illustrate any three-character generating Methods.	[4]	1	[Understand]
Q2	a) Write and explain the scan line algorithm for polygon filling.	[4]	2	[Apply]
	b) Demonstrate the Cohen-Sutherland Line clipping algorithm with an example.	[4]	2	[Apply]
	c) Illustrate the inside-outside test for polygon filling.	[4]	2	[Apply]
Q3	a) Summarize Translation & Scaling with 2D transformation matrix. OR	[2]	3	[Understand]
	b) Compare Parallel and Perspective Projections.	[2]	3	[Understand]
	c) Describe rotation about an arbitrary point with its transformation matrix.	[4]	3	[Understand]

Q4	a) Analyze Warnock Area Subdivision Algorithm. OR	[2]	4	[Analyze]
	b) Explain the Phong Shading Algorithm.	[2]	4	[Analyze]
	c) Differentiate between Diffuse illumination and Specular reflection.	[4]	4	[Analyze]
Q.5	a) Describe Segment and Segment Table in detail. OR	[2]	5	[Understand]
	b) Summarize Animation and Design of animation sequence.	[2]	5	[Understand]
	c) Interpret OpenGL Architecture with an example.	[4]	5	[Understand]
Q.6	a) Describe Hilbert's Curve. OR	[2]	6	[Understand]
	b) Summarize what do you mean by Spline representation.	[2]	6	[Understand]
	c) Describe RGB and HSV color Models.	[4]	6	[Understand]