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PAPER CODE	V313-235A (RE)

REEXAM

DECEMBER 2023

TY B.TECH (SEMESTER - I)

COURSE NAME: PROFESSOINAL ELECTIVE-1 COMPUTER GRAPHICS BRANCH: COMPUTER COURSE CODE: CSUA31205

(PATTERN 2020)

Time: [2 Hrs] **[Max. Marks: 60]**

(*) Instructions to candidates:

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

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Consider a line segment from A(0,0) to B(4,6). Use DDA line drawing algorithm to rasterize the line?	[5]	1	Apply
	b) Interpret Bresenham algorithm to find pixel are turn on the line segment between A(1,2) and B(7,6)?	[5]	1	Apply
	c) Distinguish between Random scan and raster scan display?	[5]	1	Apply
Q2	a) Demonstrate Polygon types and Representation with suitable examples?	[5]	2	Apply
	b) Describe Process of Polygon Line clipping using Cohen Sutherland algorithms having lower left point is (2,1), Upper right point is (7,5) and Line point is (1,3) and (5,6)?	[5]	2	Apply
	c) Illustrate Seed fill polygon filling algorithms with Examples?	[5]	2	Apply
Q3.	a) Describe with respect to 2D transformation? 1) Scaling 2) Rotation 3) Translation	[5]	3	Apply
	b) Obtain the 3D Transformation matrices for Translation, Scaling and Rotation about the Arbitrary axis? Rotate a Square ABCD by 45° anticlockwise direction having co-ordinates A(1,0), B(0, 0), C(0,1), D(1,1).	[5]	3	Apply
			3	Apply

	c) Describe the perspective projection with suitable examples?	[5]		
Q.4	a) Clarify Gourand Shading algorithm with suitable examples?	[5]	4	Apply
	b) Describe Depth sort algorithms for hidden surface with Suitable examples?	[5]	4	Apply
	c) Describe Illumination Models primitive in details with examples?	[5]	4	Apply
Q.5	a) Describe is segment? Explain segment creation and remaining operation in details?	[5]	5	Apply
	b) Define Animation? Describe Animation Sequence?	[5]	5	Apply
	c) Enlist different component of Maya Software and describe any 5 component?	[5]	5	Apply
Q.6)	a) What are Properties of Bezier Curve? Describe the procedure to generate Bezier Curve?	[5]	6	Understand
	b) Explain the process of Interpolation and Approximation for curve generation? Draw a necessary Diagram?	[5]	6	Understand
	c) Explain snowflake for fractal generation in details with Suitable examples?	[5]	6	Understand