(7)

Total No of Questions: [4] *SEAT NO. :*

[Total No. of Pages : 2]

S.E. 2012 (Information Technology)

214449 – Computer Graphics

Semester – II

Time: 2 Hours *Max. Marks : 50*

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of Calculator is allowed.***
5) ***Assume Suitable data if necessary***

Q1)	a)	Interpret Bresenham's algorithm to find which are pixel are turned on for the line segment between (1,2) and (7,6).	[6]
	b)	Write a pseudo-code for Boundary Fill Algorithm. Also compare boundary fill algorithm with scan line algorithm.	[6]
		OR	
Q2)	a)	Derive the equation for decision parameter of midpoint circle algorithm.	[6]
	b)	Explain with suitable diagram different methods for seed point inside test for polygon.	[6]
Q3)	a)	Explain with example midpoint subdivision method for line clipping.	[6]
	b)	Explain different types of parallel projection.	[6]
		OR	
Q4)	a)	Explain the process of polygon clipping using Sutherland Hodgeman Method. What are the intersecting point for line P1 joining (-1,0) and (4,5) and line P2 (3,1) and (6,2) if clipped against a window bounded by line x=0, y=0 and x=5,y=3.	[6]
	b)	Write matrix representation for following 3D transformations: i. Reflection about XY plane ii. Rotation about X axis. iii. Translation in X,Y and Z directions iv. Scaling	[6]
		OR	
Q5)	a)	What do you mean by morphing? Explain with example how it is used in animation.	[7]
	b)	What is the need of shading? Explain Halftoning shading.	[6]
		OR	
Q6)	a)	Define color and color gamut. Also explain Chromaticity Diagram.	[7]
	b)	How polygon shading is different from polygon filling. Explain Phong shading briefly.	[6]
Q7)	a)	Explain B- Spline curve and give at least two advantages over Bezier Splines.	[7]

	b)	Explain interpolation method of curve generation.	[6]
		OR	
Q8)	a)	What is Bezier Curve? Explain properties of Bezier Curve.	[7]
	b)	Write a note on : i. Fractals & Topological Dimension. ii. Koch Curve.	[6]