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

[Total No. of Pages : *I*]

S.E. 2012 Course

Computer Graphics and Gaming(210249), Sem-2

Time: 2 Hours ***Max. Marks : 50***

Instructions to the candidates:

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Figures to the right side indicate full marks.***
3) ***Use of Calculator is allowed.***
4) ***Assume Suitable data if necessary***
5) ***Attempt Q1 or Q2, Q3 or Q4, Q5or Q6, Q7 or Q8***

Q1)	a)	Define Persistence, Random scan and Raster scan displays? Explain functioning of flat panel display.	[6]
	b)	Write Bresenham's line algorithm and find out which pixel would be turned on for the line with end points (2, 2) to (6, 5) using the same.	[6]
		OR	
Q2)	a)	Explain the TIFF image file format with block diagram.	[6]
	b)	Explain Bresenham's circle drawing algorithm with mathematical derivation.	[6]
Q3)	a)	Write 2D transformation matrices of translation, scaling and shearing. Give the derivation of 2D rotation matrix.	[6]
	b)	Explain Sutherland-Hodgeman clipping algorithm with example.	[6]
		OR	
Q4)	a)	How to perform rotation about an arbitrary axis in 3-D.	[6]
	b)	Explain scan line algorithm with example.	[6]
Q5)	a)	Explain Bezier curve with properties.	[6]
	b)	Enlist hidden face removal algorithm and explain any two.	[7]
		OR	
Q6)	a)	Explain and compare shading algorithms.	[6]
	b)	Define Fractals? Explain Hilbert Curve and Koch curve.	[7]
Q7)	a)	Explain BITBLT operation of raster technique.	[4]
	b)	What is OpenGL ES? Explain in brief the libraries supported by OpenGL ES.	[5]
	c)	Draw block diagram of i860.	[4]
		OR	
Q8)	a)	Define animation. Explain the methods for controlling animations.	[7]
	b)	Describe various operations carried out on the segment.	[6]