LAST MOMENT TUITIONS

Computer Graphics

MAY 19

Computer Engineering (Semester 4)

Total marks: 80
Total time: 3 Hours

INSTRUCTIONS
(1) Question 1 is compulsory.
*(2) Attempt any **three** from the remaining questions.*
(3) Draw neat diagrams wherever necessary.

Q 1 a) What is aliasing and antialiasing? 5

b) Write the flood fill approach for 8 connected method. 5

c) Explain the concept of halftoning with example. 5

d) Prove that two successive rotations are additive 5

Q 2 a) Plot the points for midpoint ellipse with rx=3 and ry=5 for region 1. 10

b) Explain the steps for 2D rotation about arbitrary point. 10

Q 3 a) Explain Liang Barsky line clipping algorithm. Apply the algorithm to the line with coordinates (30,60) and (60,25) against the window(xmin,ymin)=(10,10) and (xmax,ymax)=(50,50). 10

b) Explain Weiler Artherton polygon clipping algorithm with suitable example. 10

Q 4 a) What is window and viewport? Derive the matrix for viewport transformation. 10

b) Explain what is meant by Bezier curve? State the various properties of Bezier curve. 10

Q 5 a) What is meant by parallel and perspective projection? Derive matrix for perspective projection.

10

b) Explain Z Buffer algorithm for hidden surface removal.

10

Q 6 Write short notes on(any two) 20

a) Koch Curve
b) Sweep Representation
c) Gouraud and Phong Shading
d) Inside Outside test