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[4757]-1089

S.E. (Information Technology) (Second Semester)

EXAMINATION, 2015

COMPUTER GRAPHICS

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Solve Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6, Q. 7 or Q. 8.

(ii) Figures to the right indicate full marks.

(iii) Neat diagrams must be drawn wherever necessary.

(iv) Assume suitable data, if necessary.

1. (a) List the methods for character generation. Explain any *one* character generation method briefly. [6]
- (b) Describe the 2-D transformation matrix for rotation about arbitrary point. [6]

Or

2. (a) Write C code for Bresenham's line drawing algorithm. [6]

P.T.O.

- (b) Find out the final co-ordinates of a figure bounded by the co-ordinates (1, 1), (3, 4), (5, 7) and (10, 3) when scaled by two units in X direction and three unit in Y direction. [6]
3. (a) Explain Cohen-Sutherland Line Clipping method with suitable example. [6]
- (b) Explain 3D transformation-Rotation about arbitrary axis. [6]

Or

4. (a) Explain with example Window to Viewport transformation. [6]
- (b) Explain parallel and perspective projection with diagram. [6]
5. (a) Explain the difference between RGB and CMY(K) color model. [6]
- (b) What is colour mixing ? Explain in detail. [7]

Or

6. (a) What is half-toning and shading ? Explain any *one* type of shading. [6]
- (b) Explain HSV color model and also compare it with RGB color model. [7]

7. (a) Explain Hilbert curve in detail. [6]
(b) Explain Bezier curve generation using midpoint subdivision. [7]

Or

8. (a) Explain the technique of smoothing of curves using B-Spline. [6]
(b) Explain algorithm for fractal lines. [7]