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[4657]-588

S.E. (Information Technology)

(Second Semester) EXAMINATION, 2014

COMPUTER GRAPHICS

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Answer Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4,
Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Assume suitable data, if necessary.

1. (a) Differentiate between random scan and raster scan display. [6]
- (b) What is Homogeneous Coordinate System ? Compare homogeneous and normalized co-ordinates. [6]

Or

2. (a) Write steps for filling polygon using scan line method. [6]
- (b) Rasterize a line from (0, 0) to (8, 4) using DDA algorithm. [6]

P.T.O.

3. (a) What is segment ? Explain segment creation operation. [6]
(b) Obtain the 3D Transformation matrix for rotation about any arbitrary axis. [6]

Or

4. (a) In 2D clipping how are line grouped into visible, invisible and partially visible categories ? [6]
(b) Explain ways of projecting 3D objects onto 2D screen in detail. [6]
5. (a) Explain CIE chromaticity diagram; also explain how RGB to CMY conversion is done. [6]
(b) What are the different steps in animation sequence ? Explain each step in brief. [7]

Or

6. (a) Explain pseudo C algorithm for Gourand shading. [6]
(b) What are the different ways in which motions of the objects can be specified ? Explain each in brief. [7]
7. (a) What are the properties of Bezier curve ? Describe the procedure to generate Bezier curve. [6]

- (b) What is interpolation ? Explain the process of curve approximation by Lagrange interpolation method. [7]

Or

8. (a) Explain Hilbert curve in detail. [6]
- (b) Give the set of equations of Bezier curve. Write the algorithm for drawing a Bezier curve section using four points. [7]