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[4957]-1086**S.E. (IT) (Second Semester) EXAMINATION, 2016****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) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Use of calculator is allowed.

(v) Assume suitable data if necessary.

- 1.** (a) Differentiate between random scan and raster scan display. [6]
(b) Interpret Digital Differential Analyzer (DDA) algorithm to find which are pixel are turned on for the line segment between (3, 4) and (9, 8). [6]

Or

- 2.** (a) Consider a Square A (1, 0), B(0, 0), C(0, 1), D(1, 1). Rotate the square by 45° degree anticlockwise direction followed by reflection about X-axis. [6]
(b) Explain with suitable diagram different methods for seed point inside test for polygon. [6]

P.T.O.

3. (a) Explain Sutherland-Hodgeman Line Clipping method with suitable example. [6]
- (b) Explain with example Window to Viewport Transformation. [6]

Or

4. (a) Explain display file structure. Why is display file interpreter used ? Which are the commands used in display file interpreter. [6]
- (b) Explain parallel and perspective projection with diagram. [6]
5. (a) Explain HSV and HLS Color Models. [6]
- (b) What is Shading ? What steps are required to shade an object using Phong shading algorithm ? [7]

Or

6. (a) Define Color and Color Gamut. Also explain CIE chromaticity diagram. [6]
- (b) What are the steps in design in animation sequence ? Describe about each step briefly. [7]
7. (a) Explain B-Spline curve and give at least two advantages over Bezier Splines. [6]
- (b) Explain Hilbert curve in detail. [7]

Or

8. (a) Write short notes on : [6]
 - (i) Koch curve
 - (ii) Fractal and topological dimensions.
- (b) What is interpolation ? Explain the process of curve approximation by Lagrange interpolation method. [7]