Total No. of Questions—**8**] [Total No. of Printed Pages—**3**

Seat No.	

[5152]-176

S.E. (IT.) (Second Semester) EXAMINATION, 2017

COMPUTER GRAPHICS

(2012 PATTERN)

Time : Two Hours **Maximum Marks : 50**

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

(*ii*) Neat diagrams must be drawn wherevery necessary.

(*iii*) Figures to the right side indicate full marks.

(*iv*) Assume suitable data, if necessary.

1. (*a*) Explain Mid-Point circle drawing Algorithm. [6]

(*b*) Find the transformation matrix that transforms the given square ABCD to half its size with center still remaining at same position. The co-ordinate of square are A(1,1) B(3,1) C(3,3) D(1,3) and center at (2,2). Also find resultant co-ordinate of square. [6]

Or

2. (*a*) Define : [6]

(*i*) Aliasing

(*ii*) Antialiasing

(*iii*) Phasing

P.T.O.

(*iv*) Display File

(*v*) Resolution

(*vi*) Persistence.

(*b*) Explain and write pseudo code for boundary fill algorithm for ploygon filling. [6]

3. (*a*) Find the normalization transformation window to viewport with window, lower left corner (1,1) and upper right corner at (3,5) onto a viewport for entire normalized device screen. [6]

(*b*) What are Parallel and Perspective Projection ? Explain with neat sketch 2-point and 3-point Perspective projection. [6]

Or

4. (*a*) Explain Cohen-Sutherland Line clipping with the help of suitable example. [6]

(*b*) Obtain 3-D transformation matrix for : [6]

(*i*) Translation

(*ii*) Scaling

(*iii*) Rotation about Z-Axis.

5. (*a*) What is shading ? Explain phong shading with its advantage and disadvantage. [7]

(*b*) Explain various methods to specify motion of object. [6]

Or

6. (*a*) (*i*) Write a note on key frame system. [4]

(*ii*) Define : [3]

(1) Complementary colour

(2) Colour gamut

(3) Primary colour.

(*b*) Explain HSV colour model. Write at least two comparisons between RGB and HSV. [6]

7. (*a*) Give Blending function for cubic Bezier Curve. Also write properties of Bezier curve. [7]

(*b*) Write short notes on : [6]

(*i*) Interpolating Polygon

(*ii*) Fractal Lines.

Or

8. (*a*) What are fractals ? How are fractals classified ? [7]

(*b*) Explain Bezier curve generation using Mid-Point Subdivision. [6]