

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 wherever 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]