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

Seat No.	

[5152]-567

S.E. (Computer) (II Sem.) EXAMINATION, 2017

COMPUTER GRAPHICS

(2015 PATTERN)

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

N.B. :— (*i*) Neat diagrams must be drawn wherever necessary.

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

(*iii*) Attempt 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**.

1. (*a*) Write and explain Bresenham's line algorithm and find out which pixel would be turned on for the line with end points (3, 2) to (7, 4) using the same. [7]

(*b*) Explain Scanline Fill algorithm in detail. [5]

Or

2. (*a*) Explain DDA Line drawing algorithm with example. [4]

(*b*) Explain character generating methods. [2]

(*c*) Explain Cohen-Sutherland Line clipping algorithm with example. [6]

3. (*a*) Explain how to perform rotation about an arbitrary axis in 3-D with diagram. [4]

P.T.O.

(*b*) Perform scaling on a triangle (1, 1), (8, 1) and (1, 9) with scaling factor of 2 in both x and y directions. Find the final coordinates of triangle. [2]

(*c*) Explain RGB and HSV color Models. [6]

Or

4. (*a*) What are the types of projections and brief about each type of projections. [6]

(*b*) Explain CIE Chomaticity Diagram. [4]

(*c*) What is Animation and Morphing ? [2]

5. (*a*) Enlist and explain Shading algorithms with their disadvantages. [7]

(*b*) Explain Z-buffer and BSP hidden face removal algorithm with their advantage. [6]

Or

6. (*a*) Explain Warnock's and Painter's hidden face removal algorithm. [6]

(*b*) Write short notes on (any *two*) [7]

(*i*) Half Tone

(*ii*) Phong Specular Reflection Model

(*iii*) Warn Model.

7. (*a*) Explain Bezier Curve. List its properties. [6]

(*b*) What is Fractals ? Explain Triadic (Koch) and Hilbert curve. [7]

Or

8. (*a*) Draw block diagram of NVIDIA workstation and brief about it [4]

(*b*) Write short notes on : [9]

(*i*) OpenGL

(*ii*) i380

(*iii*) B-spline Curve.