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]

(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.