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

Seat No.	

[5459]-206

S.E. (Information Technology) (II Semester) EXAMINATION, 2018

COMPUTER GRAPHICS

(2015 PATTERN)

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

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

(*ii*) Figures to the right indicate full marks.

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

1. (*a*) Differentiate between Raster scan and Random scan. [6]

(*b*) Interpret Bresenham's algorithm to find which are pixels are turned on for the line segment (1, 2) to (7, 6). [6]

Or

2. (*a*) What are different types of polygon ? How can we test whether the given point is inside the polygon ? [6]

(*b*) Find the transformation of a square ABCD whose center is at (2, 2) is reduced to half of its size with center still remaining at (2, 2). The square ABCD's coordinates are (0, 0), (4, 0), (4, 4), (0, 4). Find the new coordinates. [6]

P.T.O.

3. (*a*) Explain 3D transformation rotation about arbitrary axis. [6]

(*b*) In 2D clipping how are line grouped into visible, invisible and partially visible categories ? [6]

Or

4. (*a*) Explain the ways of projecting 3D object onto 2*d* Screen in detail. [6]

(*b*) Let ABCD be the rectangle window with A(10, 20), B(100, 20), C(100, 90), D(10, 90). Find the region codes for endpoints and use Cohen Sutherland algorithm to clip the lines P1-P2 with P1(5, 30) and P2(70, 110) and Q1-Q2 with Q1(50, 70) and Q2(80, 30). [6]

5. (*a*) Explain block diagram of i860. [6]

(*b*) Write a note on openGL. [7]

Or

6. (*a*) Explain pseudo C Algorithm for Gourand Shading. [6]

(*b*) Explain in detail Graphics memory pipeline. [7]

7. (*a*) What is interpolation ? Explain the process of curves Approximation. [6]

(*b*) Explain features of any graphics tool you have used. [7]

Or

8. (*a*) Explain algorithm for fractal lines with the example of generation of coastlines. [7]

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

(*i*) Fractals and topological dimensions

(*ii*) Koch curve.