Total No. of Questions—**8**] [Total No. of Printed Pages—**2**

Seat No.	

[5559]-206

S.E. (IT) (Second Semester) EXAMINATION, 2019

COMPUTER GRAPHICS

(2015 PATTERN)

Time : 2 Hours **Maximum Marks : 50**

INSTRUCTIONS TO THE CANDIDATES

- Neat diagram must be drawn wherever necessary.
- Figures to the right indicate full marks.
- Assume suitable data, if necessary.

Q1 (a) Rasterize the line from (-6,-5) to (1,0) using Bresenham's line drawing algorithm [6]

(b) Distinguish between Random scan and Raster scan method [6]

OR

Q2 (a) Show that transformation matrix of reflection about a line y=x is equivalent to reflection relative to x-axis followed by anticlockwise rotation of 90 degree. [6]

(b) Write Pseudo code for boundary fill algorithm. Compare boundary fill and flood fill algorithm. [6]

Q3 (a) Explain parallel and perspective projection [6]

(b) Explain window to viewport transformation [6]

OR

Q4 (a) Explain basic transformations on 3D [6]

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(b) What is segment? Explain different operations on segment with example [6]

Q5 (a) Describe the steps to design Animation Sequence along with concepts. [7]

(b) Write down steps for Constant and Gouraud shading. [6]

OR

Q6 (a) Describe in detail Graphics Memory Pipeline with block diagram. [7]

(b) Explain OpenGL with respect to OpenGL operations. [6]

Q7 (a) How midpoint subdivision can be used for Bezier Curve Generation? [7]

(b) Write down the algorithm to draw fractal lines. [6]

OR

Q8 (a) Write short note on Hilbert's and Koch Curve along with its Topological and Fractal Dimensions. [7]

(b) Explain Interpolation method of curve generation. [6]