



M.Tech II Semester Supplementary Examinations January/February 2019

COMPUTER GRAPHICS

(Common to CAD/CAM, PE&ED and PE)

(For students admitted in 2017 only)

Time: 3 hours

Max. Marks: 60

Answer all the questions

- 1 Explain the basic structure of a twisted nematic liquid crystal display with a neat sketch.

OR

- 2 Explain the concept of Bresenham's circle drawing algorithm in detail.

- 3 (a) What is anti-aliasing? Explain different techniques used in anti-aliasing.
(b) Explain about Half toning in computer graphics with its applications.

OR

- 4 (a) Distinguish between Seed filling and Scanline filling algorithm. Apply any of these algorithms to fill the polygon defined by: (1, 1), (1, 5), (5, 2).
(b) Write a procedure to implement a soft-fill algorithm.

- 5 Compare the number of arithmetic operations performed in NLN algorithm to both the Cohen-Sutherland and the Liang-Barsky line-clipping algorithms for several different line orientations relative to a clipping window.

OR

- 6 Explain about reentrant polygon clipping.

- 7 Prove that the multiplication of transformation matrices for each of the following sequence of operations is commutative:
(a) Two successive rotations.
(b) Two successive translations.
(c) Two successive scaling.

OR

- 8 Explain about the importance of 2D and 3D transformation in any CAD systems.

- 9 Discuss Z-buffer algorithm with an example. What are the merits and limitations of this algorithm?

OR

- 10 What is rendering? Comparison of Gouraud and Phong shading algorithms.

