Code: 17D04205

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
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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.

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