

C 19868

(Pages : 2)



**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2002**

CSE. 803. COMPUTER GRAPHICS

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

1. (a) Distinguish between Raster scan and Random scan display.
- (b) How DVST display works ? Explain.
- (c) What are the characteristics of a good line drawing algorithm ?
- (d) Write transformation matrix for reflection about the line $Y = 10x - 7$.
- (e) Distinguish between Parallel and Perspective projection.
- (f) Distinguish between Window and Viewport.
- (g) Explain the different functions performed by any graphics package.
- (h) Distinguish between Bezier curve and B-spline curve.

(8 × 5 = 40 marks)

Part B

*Answer (a) or (b) of each question.
Each question carries 15 marks.*

2. (a) Write generalized Bresenham's line drawing algorithm. Trace the algorithm for (0, 0) to (-8, 4). (15 marks)

Or

- (b) (i) What are the applications of interactive computer graphics ? (6 marks)
- (ii) Describe the various methods of plotting a circle. (9 marks)
3. (a) (i) What is segmentation ? How it is helpful in generation dynamic graphics ? (6 marks)
- (ii) What are viewing parameters ? Explain. (9 marks)

Or

- (b) (i) Prove that two successive 2D rotations are additive $R(\theta_1) \cdot R(\theta_2) = R(\theta_1 + \theta_2)$. (7 marks)
- (ii) Explain Graphical input techniques. (8 marks)
4. (a) (i) Distinguish between Gourand and Phong shading. (5 marks)
- (ii) Explain the Z buffer algorithm for hidden surface removal with neat pseudo code. (10 marks)

Or

Turn over