

24253

B. Tech. 5th Semester (Information Technology)

Examination,

December-2012

COMPUTER GRAPHICS

Paper- CSE-303-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt five questions with at least one question from each section and Q. No. 1 is compulsory.

1. (a) What is frame and pixel ? 3
- (b) Explain Raster Scan. 4
- (c) How to represent a line by matrix ? 3
- (d) Distinguish between window and view port. 3
- (e) Explain the deficiencies of Gourand Shading. 4
- (f) Differentiate between isometric and orthographic projection. 3

Section-A

2. Explain with neat diagram the display processor for a random scan display device. Explain how it is different from vector display. 20
3. Define and explain the following by giving example :
 - (a) point clipping
 - (b) line clipping. 20

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Section-B

4. Explain how transformation can be done from window to view-port. Explain using example. 20
5. Differentiate different line clipping algorithms. 20

Section-C

6. Explain the following with example :
(i) 3-D Rotation
(ii) Parallel Projection. 20
7. What do you mean by hidden surface removal ? Describe any hidden surface removal algorithm. 20

Section-D

8. (a) Derive simple illumination model. Include the contribution of diffuse, ambient and specular reflection. 10
(b) How are periodic B - Spline curves different from non-periodic B-Spline curves ? 10
9. Write short notes on :
(a) Bezier curves 10
(b) Shading models for polygons. 10