Question Paper Code : 20237

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Seventh Semester

Computer Science and Engineering

CS 2401/CS 71 — COMPUTER GRAPHICS

(Common to Information Technology)

(Regulation 2008)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   Write down the attributes of characters.

2.   What are homogeneous coordinates?

3.   Differentiate oblique and orthographic parallel projections.

4.   What is shear transformation?

5.   How will you convert from YIQ to RGB color model?

6.   Mention the different types of animation.

7.   Differentiate flat and smooth shading.

8.   How are shadow areas displayed?

9.   What are fractals?

10. List down the ray tracing methods.

PART B — (5 × 16 = 80 marks)

11. (a) Write down and explain the Bresenham's line drawing algorithm with an example. (16)

Or

(b) Explain in detail the Sutherland–Hodgman polygon clipping algorithm with an example. (16)

12. (a) (i) With suitable examples, explain all 3D transformations. (8)

(ii) Differentiate parallel and perspective projections. (8)

Or

(b) Discuss the visible surface detection methods in detail. (16)

13. (a) (i) Explain in detail the CMY color model. (8)

(ii) Write notes on raster animation. (8)

Or

(b) Discuss the methods to draw 3D objects and 3D scenes. (16)

14. (a) Explain the following :

(i) Adding texture to faces (8)

(ii) Creating shaded objects. (8)

Or

(b) Explain the following :

(i) Adding shadows to objects (8)

(ii) Drawing shadows (8)

15. (a) Write notes on the following :

(i) Peano curves (8)

(ii) Julia sets. (8)

Or

(b) Discuss the following :

(i) Reflection and transparency (8)

(ii) Boolean operations on objects. (8)

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