Roll No. | | | | | | | | |

B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2012

COMPUTER SCIENCE AND ENGINEERING

34

Seventh Semester

CS9401 Graphics and Multimedia

(Regulation 2008)

Time : 3 Hours Answer ALL Questions Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are the advantages of digital differential analyzer line drawing algorithm?
2. Give the composite transformation matrix for general pivot-point rotation.
3. Write the properties of Bezier curves.
4. Provide the matrix representation for 3D arbitrary fixed point scaling.
5. Is key frame systems advantageous than parameterized system? Justify your answer.
6. How to model positive acceleration?
7. What is meant by baseline sequential codec?
8. Differentiate channel with system messages.
9. What are the functions of Object manager in a distributed environment?
10. How to address the Object display/Playback issues?

Part – B (5 x 16 = 80 marks)

11. a) Derive the decision parameters for Midpoint Ellipse algorithm and summarize the steps involved in it. (10)

    b) Demonstrate the midpoint circle algorithm for a circle with r=8, centering at (0,0). (6)

12. a) i) Illustrate the Three dimensional object representations of a polygon surfaces. (8)

    ii) Develop Perspective projection transformation matrix and discuss about the special cases for these equations. (8)

OR

b) i) Explain the surface identification methods Back-Face detection and Scan line method. (8)

ii) With a neat sketch of 3D transformation viewing pipeline, describe how to transform world coordinates to viewing coordinates. (8)

13. a) i) Describe the color models CMY, RGB and YIQ (10)

ii) Summarize about the conversion between HSV and RGB models. (6)

OR

b) i) Describe the basic primitives in Open GL. (10)

ii) Write the code to draw a right angled triangle and 3D cube with perspective projections in Open GL (6)

14. a) With a neat diagram, explain the architecture of MPEG encoder and its various standards. (16)

OR

b) i) Evaluate the various CCITT Group 3 compressions. (10)

ii) Discuss about the TIFF structure in detail. (6)

15. a) Explain the various types of Multimedia authoring systems. (16)

OR

b) i) Explain the components of distributed multimedia systems (10)

ii) Discuss the design approaches that are available to optimize Object storage. (6)

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