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6E 6024

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B.Tech VI Semester (Main/ Back) Examination, May-June 2015

Computer Science

6CS4A Computer Graphics and Multimedia Techniques

Time : 3 Hours **Maximum Marks : 80**

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt any **Five** questions, selecting **one question** from **each unit**. All questions **carry** equal marks. (Schematic diagrams must be shown wherever necessary. any data you feel missing suitably be assumed and stated clearly.) Units of quantities used/ calculated must be stated clearly.*

UNIT - I

1. a) What is scan conversion ? Explain Raster Scan system with the help of Block diagram? **(8)**

b) Explain Basic principle to draw a circle also Explain mid-point circle Algorithm? **(8)**

(OR)

1. a) Write short note on : Anti aliasing technique? **(8)**

b) Explain the interactive picture construction technique? **(8)**

UNIT - II

2. a) Explain Cohen-Sutherland line clipping Algorithm with region code details? **(8)**

b) What do you mean by homogeneous co-ordinates? How these co-ordinates are useful in transformation? **(8)**

(OR)

2. a) What is the difference between scaling and Rotation? **(8)**

   b) Write down flood fill Algorithm for Area filling? **(8)**

UNIT - III

3. a) Explain Depth-Buffer Algorithm to display visible surfaces of polygen? **(8)**

   b) Short - Note on :

      i) B-Spline curves

      ii) Bezier Curve **(4×2=8)**

(OR)

3. a) Explain Scan line Algorithm? **(8)**

   b) What is perspective representation? Explain various types of perspective projection? **(8)**

UNIT - IV

4. a) Write a short Note on the following

      i) Gaurand shading

      ii) Phong shading

      iii) Ray - Tracing Algorithm **(4×3=12)**

   b) Discuss about the difference between CMY and RGB color? **(4)**

(OR)

4. What are diffused and specular reflection? and write down the illumination model that incorporates both these reflections explain all the variables used in this model? **(16)**

UNIT - V

5. a) What are Multimedia authoring tools? **(8)**

   b) Explain the different types of data compression technology? **(8)**

(OR)

5. Write a short Note on :

   i) Animation techniques

   ii) Architectural and telecommunication considerations. **(8×2=16)**