7E4241

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B.Tech. (Sem.VII) (Main/Back) Examination- Dec. 2012
Information Technology
7IT5 Computer Graphics & Multimedia Techniques (Common to CS &IT)

Time : 3 Hours

Total 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 do you mean by computer graphics system? Define aspect ratio. What do mean by pixel and frame buffer? Explain the basic operation of a CRT. (10)
   (b) Explain the architecture of random scan system. (6)

OR

1. (a) Explain the followings:
   (i) Characteristics of display adapter   (ii) Display file
   (iii) Working of color monitor   (iv) Raster scan display. (4×4)

UNIT - II

2. (a) Explain scan conversion, write Bresenham's algorithm for line m > 1. (8)
   (b) Discuss two methods of curve generation. (8)

OR

2. (a) Write down flood fill algorithm for area filling. (6)
   (b) Write short notes on Antialising techniques. (6)
   (c) What is Bezier curve? Define blending functions? (4)

UNIT - III

3. (a) What do you mean by homogeneous co-ordinates? How these co-ordinates are useful in transformations? (6)
   (b) Produce a sequence of transformations of refer on image in the line y = mx + c. (10)

OR

3. (a) Explain 3D projections and its types. (10)
   (b) Write the followings:
   (i) Composite Transformations
   (ii) Inverse Transformations. (3×2)

UNIT - IV

4. (a) Explain in brief about RGB, CMY and HSV color models. (8)
   (b) Write and explain Sutherland – Hodgeman polygon clipping. (8)

OR

4. (a) Explain the depth comparison method for displaying the visible surface of a given polyhedron. (8)
   (b) Write short notes on :
   (i) Ray tracing algorithm   (ii) Specular reflection. (4×2)

UNIT - V

5. (a) What is MPEG and JPEG? Describe its working.
   (b) Describe the hardware components of multimedia.
   (c) Explain the structure of TIFF file format.

OR

5. (a) Write short notes on the following:
   (i) Authoring tools
   (ii) Rich text format. (4×2)
   (b) Describe the document architecture and formatting of files or documents in the multimedia system?