Total No. of Questions : 5]

Roll No .....

CS - 504

B.E. V Semester

Examination, June 2015

Computer Graphics and Multimedia

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit-I

1. a) Compare raster scan and vector scan displays.
   b) What is antialiasing? How can we reduce its effect.
   c) Explain the steps in Bresenham's line drawing algorithm.
   d) Explain with algorithm, the active edge scan line scan algorithms for polygons. Why are only non horizontal lines stored in the edge list of the scan line algorithm.

OR

Explain Mid point algorithm for circle drawing and with in help plot all the points on circle having radius r = 6.

Unit-II

2. a) Explain Homogeneous co-ordinate system?
   b) Differentiate between geometric and coordinate transformation?

c) Draw a flowchart corresponding to cohen Sutherland line clipping algorithm.

d) Consider the square p(0,0), q(0,10), R(10,10), s(10,0). Roble the square about fixed point R(10,10) by an angle 60° (anticlockwise) followed by sealing by 2 unit in x direction and 2 units in y direction.

OR

Find the normalization transformation which uses a circle of radius five units and center at (1,1) as a window and a circle of radius and center at (½,½) as a viewport.

Unit-III

3. a) What is specular reflection?

b) Explain YIQ and HSV color models?

c) Differentiate between phong and Gouraud shading?

d) Derive Parametric Bezier curve equation controlled by four points {(2,5,3), (3,–6,8), (1,–2,3), (–4,2,-2)}

OR

A mirror is placed vertically such that it presses through the point (10, 0) and (0, 10). Find the reflected view of triangle ABC with coordinates A(5, 50), B(20, 40) and C(10, 70).

Unit-IV

4. a) List various file formats used in multimedia system.

b) Write a note on evolving technologies for multimedia systems.

c) Draw and explain the multimedia workstation architecture.

d) Discuss the digital video processing standards used in multimedia systems.

OR

Write short notes:

i) Audio file formats

ii) Components of Audio System

Unit-V

5. a) Give the uses of animation? What are animation file formats?

b) What is "reverse compression"?

c) Give a brief note on multimedia databases.

d) Explain with a neat block diagram, the compression and decompression methodologies used in the MPEG video compression standard.

OR

Draw and explain the architecture of MPEG encoder.

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