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Roll No ....

CS-504

B.E. V Semester

Examination, June 2016

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) Define random scan system.
   b) Differentiate between bit map and pix map.
   c) A frame buffer has a size 1024 × 1024 with 12 bit per pixel. Compute the time required to load it, if transferred rate is 12 bit per second.
   d) Explain Bresenham's line drawing algorithm with example.

   OR

   Explain boundary fill and flood fill algorithm with example.

Unit-II

2. a) State how to obtain transformation matrix for 2D rotation about an arbitary point.
   b) What is viewing transformation?
   c) Prove that 2 translation are additive and 2 scaling are multiplication.

   d) Derive equation for window-viewport transformation.

   OR

   Prove that uniform scaling and rotation form a commutative pair of operation.

Unit-III

3. a) What are the two type of projection?
   b) What is a color model?
   c) How does the basic scan line method determine which surface are hidden?
   d) Discuss in detail about Bezier curves and surface.

   OR

   Describe phong shading model. How it is more accurate than gouraud shading model.

Unit-IV

4. a) Write characteristics of multimedia with its benefits.
   b) List multimedia text file formats and multimedia text compression techniques.
   c) What are the component of an audio system?
   d) Discuss about major video recording and storage format.

   OR

   Explain various multimedia compression standard.

Unit-V

5. a) Write about image animation.
   b) Compare and contract Lossy and lossless compression techniques.
   c) What are 3D model and animation tool.
   d) Explain multimedia system architecture.

   OR

   Discuss about multimedia database system.

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