

**7E7053**

Roll No. \_\_\_\_\_

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**7E7053****B.Tech. VII Semester (Main/Back) Examination, Dec. - 2015****Information Technology****7IT5A Computer Graphics & 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) Discuss the importance and utility of a display processor in computer graphics system. Also list up the advantages and disadvantages of raster and vector graphics. (8)
- b) Explain the process of displaying objects in raster display. Draw the block diagram of the architecture of display system. (8)

**OR**

1. a) Explain scan conversion. Write a Bresenham's for line  $m \geq 1$ . Write advantage of Bresenham's line algorithm over DDA line algorithm. (10)
- b) Write boundary fill algorithm to fill an 8-Connected region. (6)

**Unit-II**

2. a) What are the uses of homogenous coordinates? Convert translation rotation and scaling in homogenous coordinates (8)
- b) What is composite transformation? Explain two successive translations and rotations. (8)

**OR**

2. a) What is line clipping? Explain Cohen-Sutherland line clipping algorithm. (8)
- b) How can polygons be clipped. Explain Sutherland-Hodgeman polygons clipping algorithm. (8)

**Unit-III**

3. Explain depth Buffer Algorithm to display visible surfaces of a given polyhedron. Also explain the any relation in object and storage requirements of the depth buffer? (16)

**OR**

3. a) What is Beizer curve? Explain the Beizer blending functions (8)  
b) Write a short note on B-spline curve. (8)

**Unit-IV**

4. a) Discuss about CMY color model and YIQ color model. (8)  
b) Explain phong shading and compare it with Gouraud shading. (8)

**OR**

4. a) Write short note on Diffuse Reflection and Ambient Reflection (10)  
b) Define illumination? Explain process of illumination (6)

**Unit-V**

5. a) Explain the various components required for a multimedia system. (8)  
b) What are the major application areas of multimedia? (8)

**OR**

5. Write short note on following:  
a) SCSI User interface.  
b) MCI User interface.  
c) RTF File format.  
d) BMP File format. (4×4)