Code No.: 9A05503/R09

B.Tech. III Year II Semester Regular and Supplementary Examinations Set-2

April/May - 2013

COMPUTER GRAPHICS

(Information Technology)

Time: 3 Hours Max. Marks: 70

*Answer any **FIVE** Questions*

***All** Questions carry **equal** marks*

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1. (a) Explain the applications of large screen displays. What graphical output devices support it?

   (b) How long would it take to load a 640 × 480 frame buffer with 12 bits per pixel, if 105 bits can be transferred per second?

2. (a) Discuss the steps involved in mid-point subdivision algorithm for clipping lines.

   (b) What are the limitations of mid-point subdivision algorithm for clipping lines?

3. (a) Show how shear transformations expressed in terms of rotation and scaling.

   (b) Give the transformation matrix for parallel and isometric projection.

4. (a) What are the different characteristics of retained-mode graphics package? (b) Explain different types in defining structures.

5. What are parametric cubic curves? Explain them with examples.

6. (a) Explain solid geometry method in detail.

   (b) Briefly write about modelling and co-ordinate transformations.

7. (a) How are colors generated in color monitor? Describe briefly.

   (b) Explain dithering technique.

8. (a) Illustrate the key differences between flat shading, gouraud shading and phong shading of polygons.

   (b) Describe the Z-buffer algorithm. For what type of scenes Z-buffer does not perform well. What effects are difficult to implement with Z-buffer? Explain why large difference between the far and near distances in the projection transformation will have a negative effect on Z-buffer performance.