



Reg. No. : .....

Name : .....

**Sixth Semester B.Tech. Degree Examination, May 2013**  
**(2008 Scheme)**  
**Branch : Information Technology**  
**08.605 : COMPUTER GRAPHICS**

Time : 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions.

**(10×4=40 Marks)**

1. Explain the advantage of interface refresh procedure used in display system.
2. What is scan conversion ?
3. Describe the architecture of simple raster graphics system.
4. Develop a line drawing function using DDA algorithm.
5. Explain window to viewport transformation.
6. What is the advantage of homogeneous co-ordinates in a transformation system ?
7. Explain Affine transformation.
8. Explain perspective projection with transformation matrix.
9. Explain the Z buffer algorithm.
10. How is the edge detection done using Sobel operator ?



## PART – B

Answer **any one** question from **each** Module.**(20×3=60 Marks)****Module – I**

11. a) Implement a polyline algorithm using Bresenham's line drawing algorithm. 10  
b) Explain 4 connected and 8 connected Boundary fill algorithm. 10  
OR
12. a) Mention any 3 graphics input devices and discuss their functions. 12  
b) Explain any one circle generating algorithm. 8

**Module – II**

13. a) How is polygon clipping done using Sutherland Hodgeman algorithm? 10  
b) Derive the reflection transformation matrix along the line  $x = 0$  and line  $y = 0$ . 10  
OR
14. Explain the 2-D transformation – translation, rotation, scaling and shear with homogeneous co-ordination. 20

**Module – III**

15. a) Discuss perimeter measurement done in image processing. 10  
b) Explain any one back face detection method. 10  
OR
16. Derive the projection matrix for parallel and perspective projection. Compare their features. 20