Registration No. :

Total number of printed pages – 2

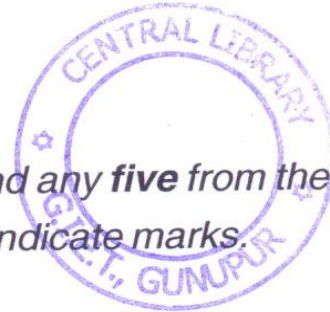## Seventh Semester Back Examination – 2014
COMPUTER GRAPHICS
BRANCH (S) : CSE, TEXTILE
QUESTION CODE : L 145

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any **five** from the rest.*
The figures in the right-hand margin indicate marks.

1. Answer the following questions :   2 ×10

    (a) What is antialiasing ?

    (b) Determine the matrix representation of 3D rotation about X-axis.

    (c) Define B-Spline curve.

    (d) What are the main limitations of the drawing algorithm ?

    (e) Convert these homogenous points to Cartesian (0,1,2,3), (1,2,3,4), (2,3,4,5).

    (f) What is viewing transformation ?

    (g) Write two techniques for producing color display with a CRT.

    (h) Define Stair step effect.

    (i) Differentiate a Bitmap and a Pixel map.

    (j) What is the need of special purpose graphical processor ?

2. (a) Explain the following 2D transformations in homogenous coordinate : rotation, scaling, shearing.   5

    (b) What is clipping ? Write the Cohen-Sutherland algorithm for Line clipping.   5

3. (a) Distinguish viewport and window. Describe normalization transformation. 5

    (b) Explain different animation techniques.   5

P.T.O.

4. What is Polygon clipping ? Explain Sutherland Hodgeman algorithm for polygon.

10

5. (a) Explain composite transformation with suitable example.   5

   (b) What is projection ? Derive the transformation for the parallel and perspective projection.

5

6. (a) Explain the Bresenham's line generation algorithm.   5

   (b) What is the meaning of Polygon rendering ? Explain Gouroud Shading Algorithm.

5

7. (a) Explain how 3D objects are drawn ?   5

   (b) Prove that two successive scaling operations are multiplicative.   5

8. Write short notes on any **two** :   5×2

   (a) Differentiate Aliasing and Antialiasing

   (b) Explain Fractal Classification and Fractal dimension

   (c) Differentiate Key frame and Procedural animation.