[07 – 3112]

III/IV B.Tech. DEGREE EXAMINATION.

First Semester

Computer Science and Engineering

Elective I — COMPUTER GRAPHICS

(Common with I.T. and M.S.S.E. and I.T.)

(Effective from the admitted batch of 2004–2005 and after batches)

Time : Three hours   Maximum : 70 marks

Question 1 is compulsory.

Answer any FOUR of the remaining questions.

All questions carry equal marks.

Answer all parts of any question at one place.

1. Explain the following:

   (a) Random scan and Raster scan displays

   (b) Merits and demerits of DVST

   (c) Pixel and Frame Buffer

   (d) Scaling

   (e) Homogeneous co-ordinates

(f) Affine Transformation

(g) B-spline curves.

2. (a) Explain DDA scan conversion Algorithm.

   (b) Explain sutherland – Hodgman clippling.

3. (a) Explain uniform scaling and differential scaling.

   (b) Generate the points between $(1,1)$ to $(10, 12)$ using Bresenhams line drawing algorithm.

4. (a) Explain various co-ordinate systems in 3D viewing.

   (b) Derive 3D transformation matrix for rotation about on Arbitarary axis and plane.

5. (a) What are 3-Dimensional display methods? Explain briefly.

   (b) What are various inherent memory devices?

6. (a) Discuss about reflection and shearing transformations.

   (b) Explain color CRT monitors.

7. (a) Discuss about different types of parallel projections.

   (b) Write about various input devices and their logical classifications.

8. (a) Write short notes on Active and passive transformation.

(b) Explain coherence properties.