FACULTY OF ENGINEERING

B.E. 3/4 (CSE) (II-Semester) (Main) Examination, April/May–2007

COMPUTER GRAPHICS

Time : Three Hours] [Maximum Marks : 75

Note :—(1) Answer **ALL** questions of Part A.

(2) Answer **FIVE** questions from Part B.

PART—A

(Marks : 10 ×2.5 = 25)

1. Explain the terms — Antialiasing and Aspect ratio.
2. What is back face detection ?
3. Write the 3D transformations of motion.
4. What is diffuse reflection ?
5. What is hierarchical modelling ?
6. Describe the working principle of vector refresh.
7. What is texture mapping ?
8. What is fractal geometry method ?
9. What is interactive input method ?
10. What is raster animation ?

PART—B

(Marks : 5 × 10 = 50)

11. (a) Briefly explain about different image compression techniques.

    (b) Explain the steps involved in simple parity scan conversion algorithm.

12. (a) What are the advantages of mini max test in z-buffer algorithm ?

    (b) Write the transformation matrix for orthographic projection.

13. (a) Discuss the steps involved in the ordered edge list algorithm.

    (b) What are the advantages of edge flag algorithm ?

14. (a) What is meant by animation ? Explain.

    (b) Discuss the characteristics of key-frame animation.

15. (a) What is meant by homogeneous representation of transformation matrices ? Why it is necessary ?

    (b) List the homogeneous representation of all the basic transformations.

16. (a) Describe an algorithm that plots B-splines.

    (b) Explain the need of normalized co-ordinates.

17. (a) What is the difference between simple DDA and Bresenham's line generation algorithm ?

    (b) Explain how dotted lines can be drawn.

18. (a) Describe the matrix form of the two dimensional transformations of translation, rotation and scaling.

    (b) Find the transformation for finding the reflection of a point with respect to the line given by th equation :

$$2X + 3Y + 4 = 0.$$