Total No. of printed pages = 2

CSE 1815 PE 14

Roll No. of candidate | | | | | | | | | | |

1/31

B.Tech. 5th Semester (Regular) End-Term Examination

CSE

COMPUTER GRAPHICS

(New Regulation & New Syllabus)

Full Marks – 70 Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) What do you mean by Computer Graphics? What are the major components (hardware and software) required for a typical computer graphics system? (2 + 2 = 4)

   (b) Illustrate the working of Refresh cathode ray tube with a suitable diagram. (6)

   (c) Briefly explain about the logical classification of input devices. (4)

2. (a) What is an output primitive? Give some examples of output primitives. (2 + 2 = 4)

   (b) What do you mean by attributes of output primitives? Mention the various attributes of line output primitives. (2 + 2 = 4)

   (c) Describe how colour pictures are displayed in a CRT using the shadow mask method. (6)

3. (a) What do you mean by two-dimensional transformations? What are the different types of two-dimensional transformations? (2 + 3 = 5)

   (b) Explain briefly about : (3 × 3 = 9)

   (i) Translation

   (ii) Scaling

   (iii) Rotation

[Turn over

4. (a) Explain in detail about the DDA algorithm. What are the disadvantages of DDA algorithm? (6 + 2 = 8)

(b) Rasterize a line using Bresenham's line drawing algorithm having end points with co-ordinates as (2, 4) and (8, 12) showing all the intermediate steps. (6)

5. (a) Explain the Cohen Sutherland Line Clipping Algorithm in detail. (8)

(b) Define Homogeneous coordinates. What is the need of homogeneous coordinates? (3 + 3 = 6)

6. (a) Discuss about the different major projection techniques used in computer graphics. (8)

(b) Describe the procedure to fill a polygon with Flood fill algorithm. (6)

7. Write short notes (any *two*) : (2 × 7 = 14)

(a) Display Controller

(b) Hierarchical Modelling

(c) RGB Color model

(d) OC Tree

(e) Fractal