USN | | | | | | | | | | 15CS62

Sixth Semester B.E. Degree Examination, Aug./Sept.2020
Computer Graphics and Visualization

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. List and explain any six application of computer graphics.   (06 Marks)
      b. Explain Refresh Cathod Ray Tube with diagram.   (10 Marks)

OR

2 a. Develop Bresenhams line drawing algorithm.   (05 Marks)
      b. Write circle drawing algorithm. Given circle radius r = 10, solve the midpoint circle algorithm by determining positions along the circle octant in the first quadrant from x = 0 to x = y.   (11 Marks)

Module-2

3 a. Classify the polygons and describe fill area primitives with diagrams.   (08 Marks)
      b. Describe about Inside-Outside Tests.   (08 Marks)

OR

4 a. Explain General Scan Line Polygon fill algorithm.   (08 Marks)
      b. Describe any two of dimensional composite transformation
          i) 2D translation   ii) 2D fixed point scaling.   (08 Marks)

Module-3

5 a. Describe 3D translation and scaling.   (08 Marks)
      b. Explain window to viewport transformation.   (08 Marks)

OR

6 a. Discuss the Cohen Sutherland line clipping with program.   (10 Marks)
      b. Explain RGB color model.   (06 Marks)

Module-4

7 a. Explain Orthogonal Projections.   (10 Marks)
      b. Discuss the OpenGL visibility Detection functions.   (06 Marks)

OR

8 a. Explain the Perspective projections.   (06 Marks)
      b. Discuss the Depth buffer method.   (10 Marks)

Module-5

9 a. Describe the Menus with program.   (06 Marks)
      b. What is the necessity of programming event driven input? Describe window events and keyboard event.   (10 Marks)

OR

10 a. Explain Rotating square in Animating interactive programs.   (07 Marks)
      b. Write short notes on Bezier surfaces.   (09 Marks)

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