

CBCS SCHEME

15CS62

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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)

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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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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, $42+8 = 50$, will be treated as malpractice