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Sixth Semester B.E. Degree Examination, Jan./Feb.2021 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. What is computer graphics? List and explain application of computer graphics. (05 Marks)
b. With a neat diagram, explain the refresh CRT monitors. (06 Marks)
c. With a neat diagram, explain Raster Scan system. (05 Marks)

OR

- 2 a. Illustrate Display Window Management using GLUT. (03 Marks)
b. List and explain OpenGL point and line functions with an example. (05 Marks)
c. Explain Bresonhan's line algorithm with an example. (08 Marks)

Module-2

- 3 a. Write an OpenGL polygon Fill Attribute functions. (05 Marks)
b. How you carryout General Scan-line polygon Fill Algorithm? (06 Marks)
c. Construct two dimensional viewing pipeline with a neat diagram. (05 Marks)

OR

- 4 a. Explain translation, rotation and scaling of objects in 2 dimensions. (07 Marks)
b. Explain matrix representation of homogeneous coordinates of 2 dimensions. (04 Marks)
c. Describe the following : Reflection and Shearing. (05 Marks)

Module-3

- 5 a. Explain Cohen –Sutherland clipping algorithm with an example. (08 Marks)
b. With a neat diagram, explain various light source. (08 Marks)

OR

- 6 a. Explain the RGB color models. (04 Marks)
b. List and explain OpenGL geometric transformation function. (05 Marks)
c. Describe the basic illumination models. (07 Marks)

Module-4

- 7 a. Explain the three dimension viewing coordinate parameters. (08 Marks)
b. Explain the orthogonal projection. (08 Marks)

OR

- 8 a. Explain the Depth-Buffer method. (05 Marks)
b. Explain perspective projection transformation matrix. (07 Marks)
c. Explain three dimension viewing functions. (04 Marks)

Module-5

- 9 a. How Pop-up menus are created using GLUT? Illustrate with an example. (08 Marks)
b. Write a program in C/C++ to draw a color cube and spin it using OpenGL transformation matrix. (08 Marks)

OR

- 10 a. Explain Beziel Spline curves. (08 Marks)
b. Explain Quadric surface. (08 Marks)

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.