

CBCS SCHEME

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15CS62

Sixth Semester B.E. Degree Examination, Jan./Feb. 2023 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? Explain the applications of Computer Graphics. (08 Marks)
b. Explain in brief Color CRT Monitor. (08 Marks)

OR

- 2 a. Explain Bresenham's line drawing algorithm. (08 Marks)
b. Explain Point attribute functions. (04 Marks)
c. List OpenGL Line attribute functions. (04 Marks)

Module-2

- 3 a. Explain Inside outside tests. (08 Marks)
b. What is Fill area? Explain Polygon classification by identifying concave polygon. (04 Marks)
c. Explain OpenGL Wire – Frame methods. (04 Marks)

OR

- 4 a. Explain the Scan Line Polygon Fill algorithm. (08 Marks)
b. Explain 2 Dimensional Translation, Rotation, Scaling. (08 Marks)

Module-3

- 5 a. Explain Cohen Sutherland Line clipping algorithm. (08 Marks)
b. What is Clipping and Clipping window? (04 Marks)
c. Explain 3 Dimensional translation. (04 Marks)

OR

- 6 a. Explain the Ambient Light, Diffuse reflection and Specular reflection. (08 Marks)
b. What is Affine transformation? (04 Marks)
c. What is Color Models? Explain different color models characteristics. (04 Marks)

Module-4

- 7 a. Explain the Orthogonal Projections. (08 Marks)
b. Explain 3D viewing pipeline. (08 Marks)

OR

- 8 a. Explain OpenGL 3D viewing functions. (08 Marks)
b. What is Projection plane, Parallel and Perspective projections? (06 Marks)
c. What is Depth Curing? (02 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.

Module-5

- 9 a. What are major characteristics which describe the logical behavior of an input devices? Explain how OpenGL provides functionality of each of the classes of logical input devices. (08 Marks)
- b. How Pop - up menus are created using GLUT? Illustrate with an example. (08 Marks)
- OR
- 10 a. What is Display list? Give OpenGL code segment that generates a display list defining a red triangle with vertices at (90, 50) (150, 50) and (100, 150)? (08 Marks)
- b. List out any characteristics of good Interactive program. (04 Marks)
- c. Explain Bezier surfaces. (04 Marks)
