

CBCS SCHEME

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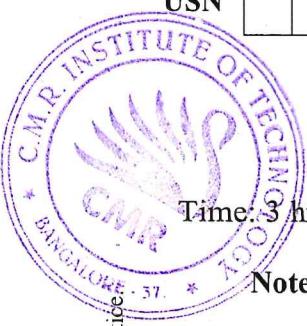
15CS62

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.



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-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 Bresenhan'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 Bezier Spline curves. (08 Marks)
 - b. Explain Quadric surface. (08 Marks)

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