Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 31153

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Sixth Semester

Computer Science and Engineering

080230030 – COMPUTER GRAPHICS

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention any four representative uses of computer Graphics.
2. What is refresh rate of a display device?
3. Define Translation and scaling.
4. Define Window-to-Viewport Transformation.
5. Distinguish between Perspective and Parallel Projections.
6. Define Vanishing points. perspective projection
7. Define primitive instancing. mechanical
8. What is constructive solid Geometry?
9. What is Ambient light? $I = V_{vp}$ $I = K_a I_a$
10. Define Depth Cueing. $I_a K_a + f_{att} I_p K_d (\vec{N} \cdot \vec{L})$

PART B — (5 × 16 = 80 marks)

11. (a) Discuss about the DDA Algorithm and the Midpoint Line Algorithm. (16)

Or

(b) With an example, explain the Cohen-Sutherland Line-clipping Algorithm. (16)

12. (a) Discuss about the Homogeneous co-ordinates and Matrix Representation of 2D Transformations. (16)

Or

(b) Explain about solid Body Transformations. Also discuss about rotating an arbitary point and Reflection through an arbitrary line. (16)

13. (a) Describe about the basic Three-Dimensional Transformations.[Scaling, Shearing, Reflection, Rotation]. (16)

Or

(b) Discuss about Orthographic projections, Axonometric projections, Oblique projections. (16)

14. (a) Explain the Z-Buffer Algorithm with example. (16)

Or

(b) Discuss about Spatial-Partitioning Representations and Octree representation. (16)

15. (a) Explain about specular and Diffuse reflections. (16)

Or

(b) Explain the features and operations of Open GL. (16)

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