Question Paper Code	12363

M.E. / M.Tech. -DEGREE EXAMINATIONS, NOV / DEC 2023
First Semester
M.E. CAD / CAM
20PCDPC103 - COMPUTER GRAPHICS
(Regulations2020)

Duration: 3 Hours   Max. Marks: 100

PART-A (10 × 2 = 20 Marks)
Answer ALL Questions

Marks, K-Level, CO

1. Write down any two-line attributes. — 2,K1,CO1
2. Define output Primitives. — 2,K1,CO1
3. Differentiate oblique and orthogonal projections. — 2,K1,CO2
4. What is critical fusion frequency? — 2,K2,.CO2
5. Write down the general expression of Bezier Bernstein polynomial. — 2,K1,CO3
6. What are spline curves? — 2,K2,CO3
7. What is dithering? — 2,K2,CO4
8. Differentiate flat and smooth shading. — 2,K2,CO4
9. Give the basic principle of animation — 2,K1,CO5
10. What is an intuitive interface? — 2,K2,CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a) Explain and write the midpoint circle drawing algorithm. Assume 10 cm as the radius and co-ordinate origin as the centre of the circle. — 13,K2,CO1

OR

   b) Explain the working principle of CRT with neat diagram. — 13,K2,CO1

12. a) (i) Explain briefly the two dimensional translations and scaling with an example. — 7,K2,CO2
   (ii) Show a transformation matrix for rotating an object and scaling about a specified the pivot point. — 6,K2,CO2

OR

   b) (i) Explain briefly the Sutherland Hodgeman polygon clipping algorithm with an example. — 7,K2,CO2
   (ii) Explain the following with suitable examples: successive Rotation, translation, and scaling transformation — 6,K2,CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

13. a) Identify the significance of the viewing pipeline and its sequential stages in the context of two-dimensional viewing. *13,K3,CO3*

OR

b) Illustrate the visible surface detection methods in detail. *13,K3,CO3*

14. a) Classify the different color models in detail. *13,K2,CO4*

OR

b) Explain briefly about Halftone approximation and Dithering techniques *13,K2,CO4*

15. a) Explain the concept of raster animation and how it contributes to animated sequences. *13,K2,CO5*

OR

b) Summarize on the following *13,K2,CO5*
(i) Ray tracing
(ii) Koch curves
(iii) Morphing

PART - C (1 × 15 = 15 Marks)

16. a) Explain the role of tweening in creating smooth transitions between key frames in animation. *15,K2,CO5*

OR

b) Explain the significance of dragons in computer graphics, specifically in the context of graphics realism. *15,K2,CO5*