Question Paper Code	21337

M.E. / M.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

First Semester

M.E. - CAD/CAM

20PCDPC103 - COMPUTER GRAPHICS

(Regulations 2020)

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level,CO
1.	What is loading a frame buffer?	2,K1,CO1
2.	Identify types of Video display devices.	2,K2,CO1
3.	Define Affine transformation.	2,K1,CO2
4.	Define Shear.	2,K1,CO2
5.	What is space-partitioning representation?	2,K1,CO3
6.	What is cubic spline?	2,K1,CO3
7.	Write the Lamberts cosine law.	2,K1,CO4
8.	What is RGB color model? How RGB model represented?	2,K1,CO4
9.	What is pseudo animation?	2,K1,CO5
10.	Define Raster Animations.	2,K1,CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain (i) Direct View Storage Tubes (ii) Flat Panel Displays (iii) Liquid Crystal Displays. *13,K2,CO1*

OR

b) Explain Ellipse generating Algorithm. *13,K2,CO1*

12. a) Explain in detail the Sutherland-Hodgeman clipping algorithm with an example. *13,K2,CO2*

OR

b) Apply Cohen Sutherland line clipping Algorithm and clip the line with co-ordinates $(x_o,y_o) = (60,20)$, $(x_1,y_1) = (80,120)$ given the window boundaries $(X_{wmin}, Y_{wmin}) = (50,50)$ and $(X_{wmax}, Y_{wmax}) = (100,100)$. *13,K3,CO2*

13. a) Explain all 3D transformations with suitable examples. *13,K2,CO3*

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **21337**

<div align="center">**OR**</div>

b) Illustrate the following hidden surface elimination methods (i) Scan line Method (ii) Painter's algorithm (iii) BSP-tree method (iv) Area subdivision method   *13,K2,CO3*

14. a) Describe RGB and HSV color models in detail.   *13,K2,CO4*

<div align="center">**OR**</div>

b) Explain in detail about the properties of light and draw chromaticity diagram.   *13,K2,CO4*

15. a) What are Koch curves? Explain in detail.   *13,K2,CO5*

<div align="center">**OR**</div>

b) What is Morphing? Explain in detail about morphing with an example.   *13,K2,CO5*

<div align="center">**PART - C (1 × 15 = 15 Marks)**</div>

16. a) Consider the line from (5,5) to (13,9). Use the Bresenham's algorithm to rasterize the line. Generate an XY table and sketch the exact line with its approximation.   *15,K2,CO1*

<div align="center">**OR**</div>

b) Outline the general view of latest Computer Graphics in detail.   *15,K2,CO1*