5E1754

B.Tech. V-Sem (Main and Back) Examination, January/February - 2024
Artificial Intelligence and Data Science
5AID4-04 Computer Graphics and Multimedia
CS, IT, AID, CAI, CDS, CCS

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

Attempt all Ten questions from Part A, Five questions out of Seven questions from Part B and Three questions out of Five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.(Mentioned form No.205

PART A
(Answer should be given up to 25 words only).
All questions are compulsory.

(10×2=20)

1. Define Pixels.

2. What is translations?

3. Define Gray scale.

4. Explain which clipping process handles the clipping of strings.

5. What is surface rendering?

6. What is Animation?

7. Define color Models.

8. Write the steps for 3-D transformations.

9. Define Aspect Ratio

10. What is polygon clipping.

PART - B
(Analytical/Problem solving questions)

Attempt any Five questions.   **(5×4=20)**

1. Compare DDA and Bresanham's algorithm.

2. Explain scan conversion.

3. Write any four applications of Computer Graphics.

4. Explain transformation in homogenous co-ordinate system.

5. Explain B Spline curves and 3 D scaling system.

6. Explain HSV color model

7. Define Ray tracing algorithm with an example.

PART - C

(Descriptive/Analytical/Problem Solving/Design question)

Attempt any Three questions.   **(3×10=30)**

1. Derive the various parameters to draw circle using mid-point circle algorithm and calculate intermediate pixel for circle having center point coordinates (0,0) and radius r = 10.   **(10)**

2. Obtain the final coordinates after two rotations on point (6,9) with rotation angles are 30^0 and 60^0 respectively.   **(10)**

3. Write short notes on
   a) Line Attributes   **(5)**
   b) Flood Fill Technique   **(5)**

4. Explain Physical and Synthetic graphics system ? Also explain the raster scan and vector scan display with example.   **(4+6)**

5. What is Animation? Explain animation function in details. Also write the steps in generation of animation.   **(10)**

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