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Total No. of Pages : 02

Total No. of Questions : 09

MCA (2015 & Onwards) (Sem.-4)
INTERACTIVE COMPUTER GRAPHICS
Subject Code : MCA-403
Paper ID : [74121]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students has to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.
3. Use of non-programmable scientific calculator is allowed.

SECTION-A

1. a) Why LCD is termed as Flat Panel Display? Explain its working.
b) Differentiate between Raster Scan and Random Scan Systems.
2. Discuss the Color Models in detail.

SECTION-B

3. a) Explain Bresenham's Circle Algorithm with its derivation.
b) What is meant by Composite Transformations in 2-D? Explain with example.
4. a) What is 2-D viewing transformation? Explain Cohen Sutherland Line Clipping with its Algorithm.
b) Explain Area filling and Flood fill Techniques.

SECTION-C

5. a) Describe in detail the differences between perspective and Parallel Projections.
 b) Write notes about Bezier Curve and B-Spline Curves.
6. Describe various 3-D Geometric Transformations.

SECTION-D

7. Write about various Surface Rendering Methods.
8. Discuss the various Hidden Line and Surface Elimination algorithms.

SECTION-E

9. Write short notes on the following :

- a) Fractals
- b) Diffuse Reflection.
- c) Dithering Techniques.
- d) Morphing of Objects.
- e) Shadow Mask.
- f) Color Lookup Table.
- g) Digitizers.
- h) Data Glove.
- i) Need of Scan Conversion.
- j) Character Generation techniques.