53 (IT 602) CPGM

2018

COMPUTER GRAPHICS & MULTIMEDIA

Paper : IT 602

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1. *(a)* Draw a line using Bresenham algorithm between the points $(20,10)$ and $(30,18)$.

    10

   (b) Find all the seven symmetric points corresponding to $(3,4)$ on a circle centred at the origin. Derive the decision parameters for Midpoint circle algorithm.

    $3+7=10$

2. Explain the functioning of a CRT monitor with diagram. What are flat-panel displays ? What are their advantages over CRT ? What is the meaning of resolution and aspect ratio of a screen ? $10+2+4+4=20$

3. (a) Explain the working of Sutherland-Hodgman algorithm for polygon clipping with the help of suitable example.

10

(b) What is reflection and shear transformation ? Discuss with examples.   10

4. What is Computer Animation ? Explain Double Buffering method used in computer animation. Explain with diagram, Keyframe animation.   2+6+12=20

5. (a) What are the types of visible surface detection algorithms ? Explain Depth-Buffer method of Visible surface detection.   2+8=10

(b) Describe three-dimensional viewing transformation pipeline with a diagram.

10

6. (a) Compare and contrast RGB and CMY colour models.   10

(b) Explain in detail Ray tracing method.

10

7. Write short notes on :   10+10=20
(a) Antialiasing
(b) Inside Outside Test.