53 (IT 602) CGMM

2017

COMPUTER GRAPHICS AND MULTIMEDIA

Paper : IT 602 (Back)

Full Marks : 100

Time : Three hours

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

*Answer **any five** questions.*

1. Answer briefly :   5×4=20

   (i) Define pixel, resolution and aspect ratio.

   (ii) With the help of suitable diagram briefly explain the working of CRT.

   (iii) Compare Raster scan and Random scan display (minimum 4 points).

   (iv) Explain Shadow Masking approach used to produce colour display.

2. (a) Explain Bresenham's line algorithm to draw a line with a slope less than 1 and greater than 0. 10

   (b) Write a C program to implement Digital Differential Analyzer (DDA) algorithm to draw a straight line. 10

3. (a) Describe two dimensional viewing transformation pipeline with a diagram. 10

   (b) What is line clipping? Explain Cohen-Sutherland line clipping algorithm with diagram. 10

4. (a) What are the differences between Emissive and Non-emissive display? Explain any non-emissive display technology with diagram. 4+6=10

   (b) Explain briefly the *three* basic transformations. Write the transformation matrix for each using homogeneous coordinate representation. 6+4=10

5. (a) Discuss with diagram the refresh operation of video controller. 5

(b) Define parallel and perspective projections. 5

(c) What is scan line polygon fill algorithm? Discuss how can we fill a region considering the three different cases of scanline. 10

6. Write short notes on : *(any four)*

5×4=20

(i) Text clipping

(ii) Multimedia system

(iii) Graphics software standard

(iv) RGB colour model

(v) Composite transformation.