

APRIL-2007

2007-HIMACHAL PRADESH UNIVERSITY

B.TECH III SEMESTER DEGREE EXAMINATION

COMPUTER GRAPHICS

(INFORMATION TECHNOLOGY)

PAPER ID : IT-3004

TIME-3 HOUR

MARK-100

NOTE: ANSWER ALL QUESTIONS

SECTION-A [10*8=80]

1.(a) Explain the working of the following:

(i) Joystick.

(ii) Image Scanner.

(b) Differentiate between Impact and Non-Impact printers. Give examples of each. Also explain the working of Laser printer.

2. (a) Explain Shadow-Mask method of producing color on CRT monitors.

(b) What are raster scan systems? Briefly discuss their working and architecture.

3. (a) Explain Midpoint Eclipse Algorithm.

(b) Briefly discuss the steps required to scan convert a circle using trigonometric method.

4. (a) What do you understand by Affine Transformations? What are their properties?

(b) What is Line Clipping? Explain any one algorithm to clip lines.

5. (a) Explain z-buffer Algorithm.

(b) Write a short note on 3D clipping.

6. Discuss in detail the perspective and parallel projections, and derive their transformation matrices.

7. What is Animation? Discuss principles of animation. Also discuss basic animation techniques and problems peculiar to animation.

8. Write short notes on the following:

(i) Diffuse Reflection.

(ii) Specular Reflection.

SECTION-B [10*2=20]

9. Attempt the following questions:

(i) What is the use of focusing system and accelerating anode in CRT?

(ii) Define Persistence and Resolution.

(iii) What are the advantages of flat panel displays over CRT?

(iv) What are the advantages of DDA algorithm over Bresenham's line drawing algorithm?

(v) What do you mean by scan conversion?

(vi) What is uniform and differential scaling?

(vii) What are 4 connected and 8 connected approaches of area filling?

(viii) Give matrix for 3D shear transformation.

(ix) Briefly discuss constant intensity shading method.

(x) What is Lookup Table? What is its use?

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