D 044

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2003.

Third Semester

Information Technology

IF 243 — DISPLAY SYSTEMS ENGINEERING

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Distinguish between production system and transmission system.

2. List the primary color models of display technology and give any one application for each of them.

3. What are the factors that affect the flicker threshold?

4. Name five common types of aberrations that are associated with electrostatic lenses for monochrome displays.

5. Explain briefly how magnetic focusing is achieved in CRT.

6. Write the specifications of typical motion picture theater projection system.

7. Define :

   (a) Persistence of vision

   (b) Aspect ratio

   (c) Horizontal resolution.

8. List the various trends in display technology.

9. Write the merits and demerits of CRT over other display technologies.

10. Explain how color signal decoding takes place.

PART B — ($5 \times 16 = 80$ marks)

11. (i) Draw the simplified block diagram of colour Television system and explain the blocks. (8)

(ii) Explain any 4 video system characteristics. (8)

12. (a) What are the factors that affect visual acuity? Illustrate how these factors affect visual acuity using Graphs. (16)

Or

(b) (i) What are the factors contributing to poor color rendition in a display system? How will you assess the effects? (12)

(ii) What are the applications of zone pattern signal? (4)

13. (a) (i) Draw the generalized schematic of CRT and explain the parts. (12)

(ii) How will you control magnification in CRT? (4)

Or

(b) (i) What is storage CRT? Explain the functions of Bistable Storage CRT with a diagram. (8)

(ii) Describe any two types of color CRT with appropriate functional diagrams. (8)

14. (a) (i) Draw the block diagram of Laser Scanning projection display system and explain the block diagram. (8)

(ii) With a diagram, explain the configuration of color laser projector. (8)

Or

(b) (i) Explain the structure of the liquid cooled LC Panel. (8)

(ii) With a block diagram explain the working of LCLV system. (4)

15. (a) (i) Explain the working of a simple laser printer. (8)

(ii) What is DVD technology? Explain the working of DVD video. (8)

Or

(b) (i) Draw the functional block diagram of a VCR and explain its working. (8)

(ii) Write a note on DVD on computer. (8)