

**N 1045**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2004.

Sixth Semester

Electronics and Communication Engineering

EC 345 — TELEVISION AND VIDEO ENGINEERING

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is Vertical and Horizontal Resolution?

2. What is storage action in Vidicon Camera tube?

3. How pincushion distortion is eliminated in picture tubes?

4. Write the usage of AFC circuits in the receiver.

5. Define luminance.

6. What do you mean by compatibility in TV receiver?

7. How to vary the contrast and brightness in TV receiver?

8. What are the main functions of a colour decoder?

9. What are the two types of generating remote control signaling to the TV receiver?

10. Mention the advantages of high definition TV.

PART B — (5 × 16 = 80 marks)

11. (i) Describe how the flicker is solved by interlaced scanning? (8)

(ii) Neatly draw and explain a Vidicon camera tube cross section. (8)

12. (a) (i) With necessary circuit explain how the Video and Audio signals are separated in a video detector (8)
- (ii) Explain the sound section of a monochrome receiver. (8)

Or

- (b) Describe the IF subsystem of a monochrome TV receiver (16)

13. (a) (i) Explain the additive colour mixing and colour bar pattern. (8)
- (ii) Describe with necessary diagrams the encoding of colour difference signal. (8)

Or

- (b) (i) Explain in detail the NTSC colour receiver system. (8)
- (ii) Describe the gun structure and focusing details of a trinitron colour picture tube. (8)

14. (a) (i) Describe the technique of averaging and separation of U and V signals. (8)
- (ii) Explain subcarrier generation and control in PAL colour receiver. (8)

Or

- (b) (i) With necessary diagram describe the operation of Forward and Reverse AGC. (8)
- (ii) Describe with a circuit the burst phase discriminator. (8)

15. (a) (i) Describe the basic distribution system for CATV network. (8)
- (ii) Explain the elements of a digital TV system. (8)

Or

- (b) (i) Explain the simplified block diagram of the earth station receiver for recovering baseband video and audio signals. (8)
- (ii) Explain the block schematic of a new generation colour receiver. (8)