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Question Paper Code : 31284

Jun - 15+ -

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Seventh Semester

Electronics and Communication Engineering

080290057 — TELEVISION AND VIDEO ENGINEERING

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Compare between the number of scanning lines and frames of Indian and American Televisions.

2. What is known as flicker?

3. Why is back porch longer than front porch?

4. List out the frequency bands of TV broadcast channels.

5. What are the requirements of TV broadcast transmission?

6. What is a diplexer? State its application.

7. What are the advantages of SAW filter?

8. Give the sound and picture IF values of PAL-D TV receiver.

9. What is a Wobbuloscope?

10. State the use of geostationery satellite for TV system.

PART B — (5 × 16 = 80 marks)

11. (a) (i) What is interlaced scanning? How does it reduce flicker and conserve bandwidth? Explain. (8)

(ii) Describe how photoemissive and photo conductive techniques are used in Camera tubes. (8)

Or

(b) (i) Define horizontal and vertical resolutions. Show that the highest modulating frequency in 625 lines system could be 5 MHz. (8)

(ii) With neat diagrams, explain the operation of a CCD solid state image scanner. (8)

12. (a) Draw the horizontal and vertical sync pulse and mark their time duration. Explain their application in scanning process in detail. (16)

Or

(b) (i) Compare between any eight standards of NTSC, PAL and SECAM systems. (8)

(ii) Explain the operations involved in production and master control rooms of a TV studio. (8)

13. (a) (i) Describe briefly co-channel and adjacent channel interference effects. How these can be eliminated in fringe areas? (8)

(ii) Describe the operation and design specifications of Yagi-Uda antenna. (8)

Or

(b) (i) Draw a simplified block diagram of a TV transmitter and explain. What are the differences between monochrome and colour transmitters? (8)

(ii) Describe an antenna set-up suitable for TV signal transmission in all directions with equal strength. (8)

14. (a) (i) Draw a VHF/UHF tuner with AFT and explain its working. (8)

(ii) Draw the cross sectional view of a Trinitron picture tube and explain its working. (8)

Or

(b) (i) Draw the block diagram of a PAL-D TV receiver and explain. (8)

(ii) Explain automatic degaussing and pincushion correction operations of a colour TV picture tube. (8)

15. (a) Describe in detail the Teletext picture with its data lines. How are the teletext informations are coded? Draw and explain the teletext TV receiver. (16)

Or

(b) (i) Describe the application of satellite communication in the domestic broadcasting systems. (8)

(ii) Write a detailed noted on HDTV. (8)
