**ANNA UNIVERSITY :: CHENNAI – 600 025**

**MODEL QUESTION PAPER**

**VI SEMESTER**

**B.E. ELECTRONICS AND COMMUNICATION ENGINEERING**

**EC345 - TELEVISION AND VIDEO ENGINEERING**

**Time: Three Hours** **Maximum : 100 Marks**

**Answer All The Questions**

**PART – A (10 x 2 = 20 Marks)**

1. What specifications of TV system decide horizontal and vertical resolution?

2. Draw the vestigial side band characteristics of TV transmitter and receiver.

3. A ghost image is produced 2 cm to the right of main image in a 40 cm wide picture tube. What is the difference in the path length of the direct and reflected rays?

4. Draw the construction of a folded dipole and state its function.

5. Draw the simplified circuit of a booster amplifier.

6. Draw the diagram of any two trap circuits used in video IF amplifier.

7. Draw the block diagram of colour TV Camera System.

8. What is meant by frequency interleaving?

9. Explain helical scanning in video tape recorder.

10. Draw the block diagram of the PLL used in frequency synthesized tuners.

**PART – B (5 x 16 = 80 marks)**

11. Derive an expression for the bandwidth of a video signal in terms of number of lines and field frequency.

12.a) With detailed block diagram explain the working of monochrome television receiver.

**(OR)**

12.b) With circuit diagram describe the IF section of a TV receiver. Explain how the use of a SAW filters simplifies the design of IF amplifiers.

13.a) Describe the horizontal deflection stage of a TV receiver. How EHT voltage is generated from this section?

**(OR)**

13.b) With circuit diagram describe transistorized video driver and explain how dc restoration and wide bandwidth are achieved in this stage.

14.a) With a block diagram describe a PAL coder.

**(OR)**

14.b) Explain how colour TV picture tubes evolved from complicated shadow mask type to simplified in – line picture tubes.

15.a) With block diagram explain the working of infra-red remote control unit of a TV receiver.

**(OR)**

15.b) With block diagram explain the working of Video tape recorder.

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