

(Lib)

- N.B. :** (1) Question No. 1 is **compulsory**.
 (2) Attempt any **four** questions from remaining **six** questions.
 (3) Figures to the **right** indicate **full** marks.
 (4) Assume full data if **necessary**.

1. (a) Explain additive and subtractive mixing. 5
 (b) What is the function of a SAW filter. 5
 (c) Explain reverse compatibility. 5
 (d) Why negative modulation is used for picture signal ? 5

2. (a) Explain interlaced scanning in detail with the help of a neat diagram and explain how it is better than sequential scanning. 10
 (b) State the reason for the following :— 10
 - (i) In TV system e/m deflection and e/s focussing is used.
 - (ii) All TV systems have odd number of scanning lines.

3. (a) Draw a block diagram of a monochrome TV transmitter and explain the function of each block. 10
 (b) Explain the function of the following in a Television receiver :— 10
 - (i) R.F. Tuner
 - (ii) Sync. Separator
 - (iii) A.G.C.
 - (iv) Flyback Transformer.

4. (a) Compare Delta gun, PIL and Trinitron picture tubes. 10
 (b) What is EIA Test Pattern ? Draw the signal and discuss the utility of this pattern in trouble shooting. 10

5. (a) With the help of neat sketch. Explain the functioning of an image orthicon camera tube. What are its drawbacks ? 10
 (b) With the help of a neat diagram explain the functioning of cable television ? 10

6. (a) Explain the functioning of an NTSC coder and decoder with the help of a neat diagram. 10
 (b) Give reason for the following :— 10
 - (i) (G-Y) signal is not selected for transmission
 - (ii) Aspect ratio 4:3 is chosen for TV.
 - (iii) Why negative modulation is used for picture signal
 - (iv) Explain additive and negative subtracting.

7. Write short notes on any three :—

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- (a) HDTV
- (b) Digital TV
- (c) AGC Methods
- (d) Chromaticity diagrams.