

(3 Hours)

[Total Marks : 100

N.B. (1) Question No. 1 is **compulsory**.(2) Attempt any **four** questions from the remaining **six** questions.(3) **Figures to right** indicate **full** marks.(4) Assume **suitable** 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. What are its advantages ? 10
- (b) What is half line discrepancy ? How is it overcome ? Explain with the help of a neat diagram. 10

3. (a) Draw a neat 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) Draw a neat diagram and explain the working of Image Orthicon camera tube. 10
- (b) Compare Delta gun, PIL and Trinitron colour TV picture tubes. 10

5. (a) Draw the block diagram of an NTSC coder and decoder and explain the working. 10
- (b) Draw the functional block diagram of Digital Television. Explain its merits. 10

6. (a) Explain how a cable TV distribution network works with the help of a neat diagram. 10
- (b) What is a pattern generator ? Where is it used ? Draw the E.I.A. pattern and explain its utility. 10

Write short notes on :—

- (a) HDTV
- (b) Frequency Interleaving
- (c) CCTV
- (d) Automatic Degaussing.

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