

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) State the reason for the following :—

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(i) In TV system e/m deflection and e/s focussing is used.

(ii) All TV systems have odd number of scanning lines.

(b) Explain interlaced scanning in details with the help of a neat diagram and explain 10 how it is better than sequential scanning.

2. (a) Draw the block diagram of Monochrome TV Transmitter and explain the functioning. 12

(b) Draw a neat diagram of composite video signal and explain the various components. 8

3. (a) Draw a neat block diagram of an NTSC coder and decoder and explain the functioning. 10

(b) Explain the working of Vidicon camera tube with the help of a neat diagram. 10

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 10 trouble shooting.

5. What is the function of the following in a TV receiver. 10

(i) SAW Filter

(ii) Sync. Separator

(iii) Colour Killer Circuit

(iv) Fly-back Transformer

(v) Degaussing Coil.

6. (a) Explain the principles of Digital TV with the help of a neat block diagram. 10

(b) Draw a neat schematic of a cable TV network and explain. 10

7. Write short notes on any **four** :—

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(a) Frequency interleaving

(b) CCTV

(c) Electronic tuning

(d) AGC Methods

(e) Chromaticity diagram.