

- 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 :— 10
 - (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 how it is better than sequential scanning. 10
 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 trouble shooting. 10
 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** :— 20
 - (a) Frequency interleaving
 - (b) CCTV
 - (c) Electronic tuning
 - (d) AGC Methods
 - (e) Chromaticity diagram.