

(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 the **right** indicate **full** marks.
 (4) Assume **suitable** data if **necessary**.

1. Justify the following :- 20
 - (a) All T.V. standards have odd number of lines.
 - (b) Aspect ratio of 4:3 is used for T.V.
 - (c) (G-Y) signal is not transmitted in colour T.V.
 - (d) Electrostatic focusing and electromagnetic deflection is used for T.V.
2. (a) Draw the block diagram of a monochrome T.V. receiver and explain the working. Draw the different waveforms at different points. 12
 (b) Explain Composite Video Signal with the help of a neat diagram. 8
3. (a) Explain the design of a Yagi-Uda antenna. What is a Ghost image ? 10
 (b) Compare the following :- 10
 - (i) Sequential scanning and interlaced scanning
 - (ii) Positive modulation and negative modulation.
4. (a) Draw neat diagram of Image Orthicon and explain the working. 10
 (b) What is a pattern generator ? Draw the EIA test pattern and explain it in brief. 10
5. (a) Compare the PIL, Deltagun and Trinitron picture tubes. 10
 (b) What is 'Purity' and 'Convergence' adjustments ? Explain the function of a degaussing coil in a colour T.V. receiver. 10
6. (a) Explain with a neat block diagram a cable T.V. distribution system. 10
 (b) Explain the principles of digital T.V. system with the help of a neat block diagram. 10
7. Write short notes on any **three** :- 20
 - (a) Frequency interleaving
 - (b) A.G.C. methods
 - (c) Chromaticity diagram
 - (d) Colour killer circuit.