



# 17537

**11718**

**3 Hours / 100 Marks**

Seat No.

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- Instructions :**
- (1) *All questions are compulsory.*
  - (2) *Answer each next main question on a new page.*
  - (3) *Illustrate your answers with neat sketches wherever necessary.*
  - (4) *Figures to the right indicate full marks.*
  - (5) *Assume suitable data, if necessary.*
  - (6) *Use of Non-programmable Electronic Pocket Calculator is permissible.*
  - (7) *Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.*

**Marks**

- 1. A) Attempt any three :** **12**
- a) Compare woofer, mid range, tweeter speaker (any four points).
  - b) Draw constructional details of Dish antenna ? List any four specification of dish antenna.
  - c) Define the following terms :
    - i) Interlace scanning
    - ii) Aspect ratio.
  - d) Draw the block diagram of CD player.
- B) Attempt any one :** **6**
- a) Draw the block diagram of Color TV Receiver (PAL-D) and label it.
  - b) Draw the EHT generation circuit using transistor and explain the operation of same ckt.
- 2. Attempt any four :** **16**
- a) Draw the block diagram of PAL-D decoder system.
  - b) List CCIRB standards for colour signal transmission and reception (any eight).
  - c) Explain working principle of LCDTV.
  - d) List advantages of Vacuum fluorescent.
  - e) Describe NHK and MOSE system for HDTV.
  - f) Draw 5 point ckt diagram for graphic equalizer.

**P.T.O.**

**Marks**

- 3. Attempt any four :** **16**
- a) Describe the architecture of cable TV network.
  - b) Draw the ckt diagram of Acc amplifier and explain its working principle.
  - c) Define pre-emphasis and de-emphasis.
  - d) Explain the function of front panel controls of CD player.
  - e) List TV channel allocation for band I and band III.
- 4. A) Attempt any three :** **12**
- a) Explain/Define the following terms related to TV :
    - i) Hue
    - ii) Luminance
    - iii) Bandwidth for color signal
    - iv) Saturation.
  - b) Define the term positive modulation. List disadvantages of negative modulation.
  - c) With the help of neat sketch, explain CD pick-up assembly.
  - d) Explain working principle of two-way and three way attenuator/connector required for dish antenna.
- B) Attempt any one :** **6**
- a) Draw the ckt diagram of chroma signal amplifier and explain the same ckt.
  - b) Draw the composite video signal, label each section and define pedestal height and colour burst.
- 5. Attempt any two of the following :** **16**
- a) Describe the construction and working principle of plumbicon camera tube.
  - b) Draw and describe the working of dB meter.
  - c) Draw the block diagram of colour TV transmitter. Describe the function of each block.
- 6. Attempt any four :** **16**
- a) State and explain primary colour and secondary colour Grassman's law for colour theory.
  - b) Draw delta gun picture tube.
  - c) Compare MATV, CATV and CCTV (any 8 points).
  - d) Describe public Address System and Mono amplifier.
  - e) Describe the importance of pre and post equalising pulses.
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