

# 22425

**12425**

**03 Hours / 70 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. Attempt any FIVE of the following :** **10**
- a) State the function of impedance matching used in PA system.
- b) List the components used in CD player.
- c) Differentiate between Mono and Stereo amplifier w.r.to
- i) No. of amplifier
- ii) Applications
- d) “Back Lit LED TV is better than edge Lit LED TV”, Justify.
- e) List the different types of Washing machine.
- f) Differentiate between Woofer and Midrange Speakers.  
(Any two points)
- g) State the use of pick-up device in Digital Camera ?

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Define with respect to sound system :
    - i) Fidelity
    - ii) Selectivity
    - iii) Sensitivity
    - iv) Loudness
  - b) Describe the working of optical pick-up assembly used in CD player with neat labelled diagram.
  - c) List any Eight CCIR-B standards for colour signal transmission and reception.
  - d) Draw the block diagram of PAL-D decoder and write the functions of each block.
- 3. Attempt any THREE of the following :** **12**
- a) “Digital camcorders are best for video recording than Digital Camera.” Justify.
  - b) List any four Electrical specifications of Washing Machine with values.
  - c) Describe the troubleshooting procedure of colour TV receiver system.
  - d) Draw a neat sketch of composite Video Signal (CVS) and Label the following.
    - i) Synchronising Pulses.
    - ii) Video Signal
    - iii) Blanking Pulses
    - iv) Pedestal height

- 4. Attempt any THREE of the following :** **12**
- a) State Grassmans Law. Draw the neat sketch of Additive colour mixing.
  - b) Explain the working principle of OLED TV with neat labelled diagram.
  - c) Draw and explain the block diagram of washing machine.
  - d) Describe with the help of diagram working principle of carbon type Microphone.
  - e) Draw the block diagram of MP3 player.
- 5. Attempt any TWO of the following :** **12**
- a) i) Draw the block diagram of Direct to Home (DTH) receiver system.  
ii) State the function of NHK-MUSE system for HDTV.
  - b) Draw and explain the working of photocopier.
  - c) Draw the block diagram of colour TV transmitter and write the function of each block.
- 6. Attempt any TWO of the following :** **12**
- a) Differentiate between positive and Negative modulation w.r.to
    - i) Defination
    - ii) Effect of noise interference on video signal.
    - iii) Effect of noise interference on synchronization
    - iv) Waveform
    - v) White level%
    - vi) Use of AGC in receiver
  - b) Draw a neat sketch of microwave oven and state the function of Magnetron and Bleeder resistor.
  - c) Draw a neat block diagram of Hi-Fi Amplifier and state the function of each block.
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