

# 22425

**23124**

**3 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) Draw the crystal microphone.
  - b) Explain impedance matching of PA system.
  - c) Define :-
    - i) Selectivity
    - ii) Fidelity.
  - d) List the advantages of OLED.
  - e) What is the use of pick-up device in digital camera.
  - f) Compare woofer and mid range speaker. (Any two points)
  - g) State the four electric specification of microwave oven.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Compare mono and stereo amplifier.
  - b) Draw and explain block diagram of CD player.
  - c) State Grassman's Law. Explain additive colour mixing.
  - d) Explain working principle of LCD TV.
- 3. Attempt any THREE of the following:** **12**
- a) Draw the block diagram and explain the operation of washing machine.
  - b) State important features of CCD device. (Any four)
  - c) Explain NHK MUSE encoding system.
  - d) Draw the block diagram of PAL D decoder and write function of each block.
- 4. Attempt any THREE of the following:** **12**
- a) Draw and explain composite video signal.
  - b) Draw and describe DTH system.
  - c) Compare CCD and CMOS sensor.
  - d) State the basic characteristics of sound and explain any one of them.
  - e) List the different lenses used in CD system and state function of each.
- 5. Attempt any TWO of the following:** **12**
- a) What is the need of EHT? Explain how it is generated.
  - b) Digital camcorder are the best for video recording than digital camera. Justify.
  - c) Draw the block diagram of monochrome. (Black and White) T.V. transmitter and state the function of each block.

**6. Attempt any TWO of the following:****12**

- a) Describe the need of equalizing pulses, draw the structure of vertical synchronising pulses.
  - b)
    - i) State operating principle of digicam.
    - ii) Explain picture processing of CCD sensor.
  - c) Draw and explain the working of MP3 player.
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