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.

1. A) Attempt any three:
   a) Draw the block diagram of dB meter with neat label.
   b) Define the following terms:
      i) Contrast
      ii) Luminance
      iii) Hue
      iv) Saturation.
   c) Compare stereo amplifier and mono amplifier. (any four points).
   d) List the different components used in CD player. State their functions.

   B) Attempt any one:
   a) Draw the block diagram of PAL-D decoder and write function of each block.
   b) Explain working of camera tube state different types of camera tube.

2. Attempt any four:
   a) Draw the constructional diagram of Yagi Uda Antenna and state the function of each component.
   b) Draw the three way cross over network also draw its frequency response.
   c) Draw the block diagram of CD player and explain its working.
   d) Describe NHK and MUSE system.
   e) Draw the circuit for EHT generation using diode split technique. Describe its need.
   f) List the frequencies of TV channel allocation for band I and band III.

3. Attempt any four:
   a) Draw the layout diagram for distribution of cable connection for MATV and describe it.
   b) Draw the diagram of graphic equalizer and explain it.

P.T.O.
c) State the requirement of stereo amplifier to be a Hi Fi amplifier (any four).

d) State the advantages of fluorescent display system.

e) Distinguish between positive and negative modulation.

f) Define vestigial side band transmission. State its any two merits and demerits.

4. A) Attempt any three:

i) Draw the block diagram of transmitter and receiver section of remote control for CD player.

ii) Draw and explain the block diagram of DTH system.

iii) With neat sketch describe the working of solid state camera based on CCD.

iv) Describe with neat sketch how interlaced scanning will help to reduce the bandwidth of the video signal.

B) Attempt any one:

i) Describe the need of equalizing pulses. Draw the structure of vertical synchronizing pulse.

ii) Draw the block diagram of colour TV transmitter.

5. Attempt any two:

a) Draw composite video signal of one line and state the function of following:

   i) DC level

   ii) Blanking level

   iii) Whiter than white

   iv) Pedestal height.

b) Draw the block diagram of delta gun colour picture tube and explain its working.

c) Explain how separation of u and v signal is achieved in colour TV. Draw the circuit of RGB drive amplifier used in colour TV.

6. Attempt any four:

a) Describe multiplexer and attenuator in cable TV with its need.

b) Describe the working of LNBC with the help of block diagram.

c) Describe the principle of LCD TV with neat sketch.

b) With neat sketch describe the working of pick-up unit of a CD player.

e) Distinguish between CATV and CCTV (any four points).

f) Draw the block diagram of Hi-Fi amplifier and state the function of controls available on it.