Instructions:  
(1) All questions are compulsory.  
(2) Illustrate your answers with neat sketches wherever necessary.  
(3) Figures to the right indicate full marks.  
(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

1. A) Attempt any three:  
   a) Differentiate between stereo amplifier and mono amplifier (4 points).  
   b) Draw LNBC unit in the dish antenna.  
   c) State the CCIR-B standard for colour TV signal transmission and reception (any eight).  
   d) State any four advantages of fluorescent display system.

B) Attempt any one:  
   a) What is working principle of TV camera tube? State different types of camera tube and explain any one.  
   b) Draw and explain the block diagram of PAL-D decoder.

2. Attempt any four:  
   a) State working principle of LCDTV with neat diagram.  
   b) Explain the details of horizontal sync pulse.  
   c) Explain how U and V signals are separated in colour TV system.  
   d) Enlist the different types of CD lens used in CD player. Explain any one.  
   e) Describe NHK MUSE system for HDTV.  
   f) Draw the three way cross over n/w with its frequency response graph.

3. Attempt any four:  
   a) Explain use of multiplexer in cable TV.  
   b) Draw and explain working of RGB drive amplifier in colour TV.  
   c) Draw the block diagram of Hi – Ri amplifier and explain it in detail.
d) Draw the block diagram of CD player. Explain how cross are corrected in ERCO block.
e) Give frequency range in TV channel allocation for band I and band III.
f) What is graphic equalizer? Write its necessity.

4. A) Attempt any three:
   a) Explain interface scanning in TV system with neat sketch.
   b) State merits and demerits of negative modulation.
   c) Draw and explain CD pick up assembly in CD player.
   d) Draw and explain the block diagram of DTH system.

   B) Attempt any one:
   a) What is the need of EHT? Explain how it is generated.
   b) Draw composite video signal of one line and label it showing.
      i) DC level
      ii) Blanking level
      iii) Whiter than white level
      iv) Pedestal height and explain it.

5. Attempt any two:
   a) Draw the block diagram of colour TV receiver (PALD type). Explain how signal is processed in each block.
   b) Draw the layout diagram for MATV and explain it in detail.
   c) Draw the block diagram of colour TV transmitter and explain the function of each block.

6. Attempt any four:
   a) Define the terms:
      i) Aspect ratio
      ii) Image continuity
      iii) Saturation
      iv) Hue.
   b) Explain PIL picture tube in detail.
   c) Draw the block diagram of dBmeter and explain its working principle.
   d) List various control of Hi-Fi amplifier and explain any one.
   e) State Grassman’s law and explain additive colour mixing.