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:  
   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:  
   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:  
   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 LCD TV. 
   d) List advantages of Vacuum fluorescent. 
   e) Describe NHK and MOSE system for HDTV. 
   f) Draw 5 point ckt diagram for graphic equilizer.

P.T.O.
3. Attempt any four:
   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:
   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:
   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:
   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:
   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 equilising pulses.