Q. P. Code: 36266

Time: 3 hours **Marks: 80**

Note:

- Question no 1 is compulsory
- Attempt any 3 questions out of remaining 5 questions each carrying 20 marks (Q2 – Q6) from all modules
- Illustrate answer with sketches and examples wherever required.

1. Answer **any 4** from the following: (20)
   a. Why (G-Y) is not transmitted in color television system?
   b. List electrical characteristics of NTSC system
   c. Channel bandwidth in PAL system is 7 MHz. Draw and explain
   d. Give reason – Cross color and cross luminance interference is eliminated in MAC signal transmissions
   e. Draw tuner block diagram in television receiver and explain the function
   f. State the following:
      i. Horizontal scanning frequency in PAL system
      ii. Vertical scanning frequency in PAL system
      iii. Picture IF
      iv. Sound IF

2. Draw PAL encoder block diagram and explain in detail. Also explain how phase errors get cancelled in PAL system (20)

3. Answer the following:
   a. Explain interlaced scanning in TV system in detail with appropriate diagrams and waveforms (10)
   b. Draw composite video signal and label all parts. Explain why sync pulses are above black level (10)

4. (a)Explain MAC encoding in digital TV system. Draw D2 MAC signal (10)
   (b) Explain DTH system (10)

5. Answer the following:
   a. Explain the working of LCD display (10)
   b. Explain why Chroma is subsampled in digital video formats. Give details of Rec 601 (4:2:2) (10)

6. Write short notes on: **(Any two)** (20)
   a. HDTV
   b. MUSE system
   c. Camera tubes (Any one)
   d. Compatibility considerations in monochrome and color TV

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