

Time: 3 Hours

Maximum Marks:80

Note:

1. Question no. 1 is compulsory.
2. Out of remaining questions, attempt any 3 questions.
3. In all 4 questions to be attempted.
4. All questions carry equal marks.
5. Answer to each new question to be started on a fresh page.
6. Figure in brackets on the right hand side indicate full marks for a question.
7. Illustrate answer with neat diagrams wherever necessary.

Q1. Attempt **any 4** from the following:-

[20]

- a) Draw the block diagram of monochrome TV transmitter and explain its working.
- b) What do you understand by compatibility in television system? What are the requirements to be considered to make colour TV system fully compatible for?
- c) Compare PAL and NTSC television systems. (Five significant points of comparison)
- d) What is difference between component video and composite video? Explain.
- e) What is MAC signal? What are its advantages?

Q2 a) Draw and explain Image Orthicon type camera tube in detail.

[10]

b) Explain the concept of frequency interleaving in television system.

[10]

Q3 a) With the neat labeled diagram explain the NTSC receiver operation.

[10]

b) What is Chroma subsampling? Explain the concept of Chroma subsampling with its types.

[10]

Q4 a) What are different standards for video compression? With the help of neat diagram explain MPEG-2 principle.

[10]

b) Draw and explain satellite television communication system.

[10]

Q5 a) Explain IPTV with respect to architecture, internet protocols used, advantages and limitations.

[10]

b) What is CCTV? Draw its block diagram and explain its principle of operation.

[10]

Q6 a) Write short note on **any two**:

[10]

i) Chrome cast

ii) Set-Top-Box

iii) HDTV standards & compatibility

iv) DVB-H standard

b) Explain the working principle of LED display with diagram and compare LED and LCD type of television displays.

[10]