

Paper / Subject Code: 32206 / Elective - I TV &amp; Video Engineering (DLOC)

Time: 3 Hours

Maximum Marks: 80

Note:

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

Q1. Attempt any 4 from the following:-

- a) Draw the block diagram of monochrome TV transmitter and explain its working. [20]  
 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 &amp; 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]