R16

IV B.Tech I Semester Regular/Supplementary Examinations, Jan/Feb - 2022
TELEVISION ENGINEERING
(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any FOUR questions from Part-B
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PART–A *(14 Marks)*

1. a) Define horizontal and vertical resolution. [3]
    b) List out the values of picture IF and sound IF in TV transmission. [2]
    c) How colors are represented in chromaticity diagram. [2]
    d) What is the need of HDTV? [2]
    e) Write the features of the Audio Engineering Society. [3]
    f) What are the various objects in MPEG compression tool kit? [2]

PART–B *(4x14 = 56 Marks)*

2. a) With neat block diagram explain the working of equalizing pulses in detail. [7]
    b) Draw the block diagram of a PAL encoder and explain the operation by showing waveforms at various stages. [7]

3. a) What is VSB transmission and why is it used for transmission of TV picture signals? Explain. [7]
    b) Draw and explain the block diagram of a monochrome TV receiver with the signal waveforms at various points. [7]

4. a) List the need and types of AGC circuits used in TV system. [7]
    b) Explain the principle of U and V signal demodulator in a color receiver. [7]

5. a) Explain various DTV video presentation formats. [7]
    b) Explain various steps in MPEG video compression techniques. [7]

6. a) Draw the block diagram of DTV receiver and describe the function of each block. [7]
    b) Describe the various features of the ATSC DTV standards. [7]

7. a) Explain the various phases in metadata lifecycle. [7]
    b) Write short notes on content distribution and back channel scenarios. [7]

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