

Total No. of Questions : 12]

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B.E. (E&TC)

AUDIO - VIDEO ENGINEERING

(404225) (2003 Course) (Elective - II)

Time : 3 Hours]

[Max. Marks : 100

*Instructions to the candidates:*

- 1) *Answer three questions from Section - I and three questions from Section - II.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 5) *Assume suitable data, if necessary.*

**SECTION - I**

- Q1)** a) Define Luminance, saturation and Hue. [6]  
b) Explain frequency interleaving technique. [4]  
c) Give construction and operation of LCD TV screen and TFT displays used for TV. [8]

OR

- Q2)** a) Explain why bandwidth in CCIR-B standards is 5 MHz. [5]  
b) Explain construction & operation of Vidicon camera. [5]  
c) Draw neat sketch of composite video signal. Indicate numerical values for different timing for various pulses. [4]  
d) Explain construction & operation of any one colour picture tube. [4]

- Q3)** a) With block diagram explain low level modulated TV transmitter. [8]  
b) Explain working of PAL Encoder with suitable block diagram. [8]

OR

- Q4)** a) Explain in brief remote control system for Television receiver. [4]  
b) State importance of pattern generator in TV receiver alignments. [4]  
c) With block diagram explain NTSC receiver. [8]

- Q5)** a) State advantages of digital television over analog television. [4]  
b) Explain in detail MAC technology. [8]  
c) Explain MPEG-2 video compression format. [4]

*P.T.O.*

OR

- Q6)** a) Explain DCT base image encoding for JPEG. [8]  
b) Explain in detail digital TV receiver. [8]

**SECTION - II**

- Q7)** a) Discuss a live TV coverage plan for a cricket match. Clearly show camera placements at different locations and equipment set-up for Live broadcast. [10]  
b) List out HDTV parameters. [4]  
c) State different standards used for HDTV broadcast. [4]

OR

- Q8)** a) Explain 3D stereoscopic technique. [6]  
b) With suitable block diagram explain CCTV system. State its applications. [6]  
c) Explain the concept of video on demand in satellite television. [6]

- Q9)** a) With the help of block diagram explain CD recording and reproduction system. State specifications of CD. [8]  
b) Compare the performance of magnetic tape recording with optical recording. [8]

OR

- Q10)** a) Explain MPEG Audio compression formats. [8]  
b) Compare performance parameters of VCD, DVD, HD-DVD, BD-DVD. [8]

- Q11)** a) Explain acoustical design of an auditorium. [8]  
b) Explain with the help of block diagram satellite radio receiver. [8]

OR

- Q12)** a) Explain concept of reverberation and Echo. [8]  
b) Write short notes on : [8]  
i) Absorption co-efficient in acoustic design.  
ii) Cordless microphone.

