# [5254] - 94
# B.E. (Electronics)
# AUDIO & VIDEO ENGINEERING
## (2008 Pattern) (Elective - III)

*Time : 3 Hours]*                                                    *[Max. Marks : 100*

*Instructions to the candidates :*

*1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12.*

*2) Answers to the two sections should be written in separate books.*

*3) Neat diagrams must be drawn wherever necessary.*

*4) Figures to the right indicate full marks.*

*5) Use of electronic pocket calculator is allowed.*

*6) Assume suitable data, if necessary.*

## SECTION - I

*Q1)* a)  Explain the chromaticity diagram.                              **[6]**

b)  Explain the mixing of colors used in color TV system.          **[6]**

c)  Draw a neat diagram of LED display & explain its working.      **[6]**

OR

*Q2)* a)  With respect to composite video signal explain the significance of forward scan, retrace, sync pulse, front & back porch and color burst.   **[6]**

b)  Define the terms :-                                            **[6]**

i)   horizontal & vertical resolution

ii)  viewing angle

iii) kell factor

c)  Explain the color circle diagram.                             **[6]**

*Q3)* a)  Draw a neat block diagram of color TV receiver and explain function of each block.   **[8]**

b)  With the help of neat block diagram explain remote control used for color TV.   **[8]**

OR

*P.T.O.*

*Q4)* a) Draw a neat block diagram of PAL encoder & decoder and explain function of each block. **[8]**

b) Compare PAL color system with NTSC & SECAM. **[8]**

*Q5)* a) Explain Digital TV transmitter using neat block diagram. **[8]**

b) Sketch & explain MAC & advanced MAC signals. **[8]**

OR

*Q6)* a) What is need of video compression? State the various schemes of video compression & explain any one of them in detail. **[8]**

b) State the objectives of MPEG-4 standard. Using abstract model explain the concept of audio/visual objects and their spatiotemporal relationships to generate encoded bit streams. **[8]**

## SECTION - II

*Q7)* a) Explain the concept of video on demand. **[6]**

b) Explain conditional access system (CAS) using neat block diagram. **[6]**

c) Discuss the case study of live cricket match broadcasting. **[6]**

OR

*Q8)* a) State the features of CCTV. Explain its operation using neat block schematics. **[6]**

b) Discuss the various HDTV standards. **[6]**

d) Explain the concept of satellite TV. **[6]**

*Q9)* a) What are the advantages of digital sound recording? Explain any one technique of digital sound recording using neat diagram. **[8]**

b) Draw a neat block diagram of blue ray DVD player & explain function of each block. **[8]**

OR

*Q10)* a) State & explain the various audio compression standards. **[8]**

b) Write down important specifications of VCD & DVD player. **[8]**

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**Q11)** Explain the following terms - [16]

    a)    Reverberation

    b)    Acoustic feedback

    c)    Acoustic chamber

    d)    Dolby stereophonic system

<div align="center">OR</div>

**Q12)** Write notes on - [16]

    a)    Graphic equalizer

    b)    Chord less microphone system

    c)    Satellite radio

    d)    Special type speakers

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