Total No. of Questions : 8]

SEAT No. :

P3627

[Total No. of Pages : 2

[4959]-1115

B.E. (Electronics)

AUDIO & VIDEO ENGINEERING

(2012 Pattern) (Elective - III(b))

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***
5) ***Assume suitable data, if necessary.***

Q1) a) Define hue and saturation. Explain additive colour mixing technique. **[7]**

b) Draw the generalized color TV receiver block diagram. Describe function of each block. **[7]**

c) Define the terms and write their functions : **[6]**

i) LNBC

ii) FEC

iii) Transponder

OR

Q2) a) Sketch channel bandwidth details and show locations of Y, C and sound carrier frequencies. Why a guard band is allowed at the higher end of channel width spectrum? **[7]**

b) Why do we transmit a color burst in color TV transmission?
With the help of suitable example, show that PAL receiver reduces the phase error. **[7]**

c) Discuss composite and component video encoding in brief. **[6]**

Q3) a) What is IPTV? Explain its important features. **[8]**

b) What is the basic principle of 3DTV? Discuss active and passive 3D. **[8]**

P.T.O.

OR

Q4) a) Discuss the objectives of H.264. Draw and discuss block schematic of H.264. **[8]**

b) Explain the concept of TV white spaces with suitable diagram. How will it help in 'Digital India Program'? **[8]**

Q5) a) Explain the concept of 'Reverberation' with suitable diagram. Write the equation for reverberation time. **[8]**

b) Define threshold of hearing. When each of two independent sources in the absence of the other, generates a sound pressure level of 65 dB at a certain point, calculate the resulting sound pressure level. **[8]**

OR

Q6) a) Draw and explain the block schematic of public Address system. Discuss its need. **[8]**

b) What is audio masking? Explain the different types of masking with neat diagrams. **[8]**

Q7) a) Draw a labelled block diagram of MP3 player. Discuss the compression technique in detail. **[7]**

b) Compare CD, DVD and Blu - Ray DVD on the basis of **[7]**

i) Wavelength of laser used.

ii) Storage capacity

iii) Variants & formats of these discs.

c) Discuss Dolby digital sound systems. **[4]**

OR

Q8) a) Explain any, one ITU - G audio compression technique. **[7]**

b) What are the different sound recording techniques? Give example of each technique. **[7]**

c) State the advantages and disadvantages of optical recording technique. **[4]**

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