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SF-7721

B. E. (Sem. VIII) (EC) Examination

May / June – 2011

Audio & Video Engineering

Time : Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. (Sem. VIII) (EC)**

Name of the Subject :

☛ **Audio & Video Engineering**

☛ Subject Code No. : **7 7 2 1** ☛ Section No. (1, 2,.....) : **NIL**

Seat No. :

Student's Signature

(2) Attempt all questions.

(3) Figure to the right indicate marks.

(4) Assume suitable data wherever required.

1 (a) Give answer of following questions. **05**

(1) Aspect ratio is _____

a. 5/4, b. 2/4, c. 4/3, d. 3/2.

(2) Total active line period is _____

a. 12 μs, b. 24 μs, c. 52μs, d. 64 μs

(3) Total no. of scanning lines in Indian TV system are _____

a. 525 lines, b. 625 lines, c. 718 lines, d. 312.5 lines.

(4) Equalizing pulses are of length _____

a. 10 lines, b. 5 lines, c. 20 lines, d. 10 lines.

(5) Duration of horizontal sync pulses are _____

a. 12 μs, b. 1.5 μs, c. 5.8 μs, d. 4.7 μs.

(b) Draw composite video signal waveforms. **5**

(c) Explain functions of equalizing pulses. Front porch & back porch of horizontal sync. pulses. **5**

(d) Describe the meaning of luminance, hue and saturation as applied to colour pictures. **5**

2 Give the bandwidth requirement of monochrome TV transmission. Derive **7**

(a) Necessary equation

(b) Explain kayed AGC and Delayed AGC **8**

OR

(a) Draw the block diagram of a monochrome TV receiver with the signal waveforms at various points. **10**

(b) Explain sync separator circuit. **5**

3 Give answer of any three questions : **15**

(1) Explain electronics tuner circuit.

(2) Why pre emphasis and de-emphasis circuits are used ?

(3) Explain the term kell factor and blanking standard.

(4) Explain working of video detector circuit.

(5) Explain positive modulation and negative modulation.

4 Answer the following (Any three). **18**

(a) What is the working principle of horn type loud speaker ? Explain with diagram.

(b) What do you mean by sterophony sound ? Draw and explain block diagram of stereophonic sound system.

(c) Draw block diagram of PAL-D decoder.

(d) Explain how the luminance and colour difference signals are developed from camera outputs.

5 Answer the following. (Any two) **16**

(a) Draw and explain block diagram of magnetic recording and reproducing system.

(b) Explain working of moving coil microphone with the help of necessary sketches.

(c) What do you understand by compatibility between monochrome and colour TV systems and how is this achieved ? Explain how colour difference signals disappear on white. Why (G-y) is not chosen for transmission ?

(d) Draw block diagram of the circuit-used to separate U and V colour signal phasors with a delay line and explain briefly.

6 Write short notes (Any two). **16**

(a) Public address system.

(b) Vidicon camera tube.

(c) Picture tube for colour receiver.

(d) Tape transport mechanism for cassette recorder.
