



RM-7721

B. E. IV (Sem. VIII) (ECC) Examination

April / May – 2010

Audio & Video Engg.

Time : 3 Hours]

[Total Marks : 100

Instruction :

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

Name of the Examination :
B. E. 4 (Sem. 8) (ECC)

Name of the Subject :
Audio & Video Engg.

Subject Code No. : 7 7 2 1 Section No. (1, 2,.....) : 1&2

Seat No. :
[] [] [] [] [] []

Student's Signature

SECTION - I

- 1 (a) Choose proper option, and give the justification for it : 10
- (i) Aspect ratio is _____
- (a) 5/4 (b) 2/4
(c) 4/3 (d) 3/2
- (ii) Total frame period is _____
- (a) 50 ms (b) 20 ms
(c) 25 ms (d) 40 ms
- (iii) Total vertical retrace period is _____
- (a) 18.720 ms (b) 1.280 ms
(c) 25 ms (d) 20 ms
- (iv) Highest modulating frequency is _____
- (a) 10 MHz (b) 5 MHz
(c) 7 MHz (d) 2.5 MHz
- (v) Duration of the back porch is _____
- (a) 64 μ s (b) 4.7 μ s
(c) 5.8 μ s (d) 12 μ s.
- (b) Explain any one type of picture tube in detail. 5
- (c) Explain any one type of camera tube in detail. 5
- 2 (a) Sketch detail of horizontal blanking and sync pulse. 8
- (b) Explain the interlace scanning and how it affects the bandwidth. 7

OR

- 2 (a) Sketch detail vertical sync pulse. 8
- (b) Why delayed AGC required? Explain its circuit in detail. 7

- 3 Write answers of any **three** questions : 15
- (a) Explain VSB in detail, why it is required ?
 - (b) Explain picture tube control circuit.
 - (c) Explain sync separation circuit in detail.
 - (d) Explain pre-emphasis ? Draw its circuit.
 - (e) What is the requirement of EHT ? How to generate it ?

SECTION - II

- 4 (a) Answer the following : 10
- (i) Explain how the human system of hearing is stereophony ?
 - (ii) Define : PHON and Sound.
 - (iii) Why the blanking pulses are not used as sync pulses ?
 - (iv) Explain Aspect Ratio.
 - (v) Name the primary and contemporary colours used in colour TV. What is Grassman's law ?
- (b) Draw and explain block diagram of stereo recording on disc. 6
- (c) Write characteristics of microphones and explain any one. 4
- 5 (a) Explain briefly the operation of following circuits : 10
- (i) ACC amplifier
 - (ii) Gated Burst amplifier
- (b) Explain the basic principle of a synchronous demodulator. 5

OR

- 5 (a) Explain working of condenser microphone and write its applications. 8
- (b) Write comparison between cone type and horn type loud speakers. 7
- 6 Write short notes : (any **three**) 15
- (i) Block diagram of PAL-D decoder
 - (ii) Tweeters and woofers
 - (iii) Practical stereo system
 - (iv) PA system for public meeting in park
 - (v) Advantages and disadvantages of tape recording.