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B.E.Semester VI EXAMINATION (APRIL/2015)

Subject Code: EC-605

Subject Name: Audio Video Systems

Date: 06/05/2015

Time: 10:30 to 1:30p.m.

Total Marks: 70 Marks

Instructions:

1. Answer each section in separate Answer sheet.
2. Use of Scientific calculator is permitted.
3. All questions are Compulsory.
4. Indicate clearly, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

Section-I

Q:1 (All Compulsory)

- (A) Write down a short note about ribbon microphone. [5]
 - (B) Write down a short note about moving coil cone type loudspeaker. [5]
 - (C) Explain the various parts of human ear in detail with appropriate diagram. [5]
- OR
- (C) Determine the speed of a sound wave in air at a temperature of 20 degrees Celsius. [5]

Q:2 Answer the following question.

- (A) Draw and explain the block diagram of a monochrome television transmitter. [5]
 - (B) Describe the meaning of luminance, hue and saturation as applied to colour pictures. [5]
- OR
- (A) Draw and explain the block diagram of a black and white TV receiver. [5]
 - (B) Justify the choice of 625 lines for TV transmission. Why is the total number of lines kept odd in all television system? [5]

Q:3 Answer the following question.

- (A) Draw and explain the diagram of vidicon camera tube. [5]
 - (B) Justify the need for pre and post equalizing pulses. Why is it necessary to keep their duration equal to the half line period? [5]
- OR
- (A) Explain with a suitable sketch how electrons emitted at the cathode of a monochrome picture tube are focused, accelerated, and deflected to produce a raster on the screen. [5]
 - (B) Sketch details of horizontal blanking and sync pulses. Label on it (1) front porch, (2) horizontal sync pulse, (3) back porch and (4) active line periods. [5]

Section 2

Q:4 (All Compulsory)

- (A) What are the salient features of PAL system? Draw and explain the simplified block diagram of PAL encoder. [5]
- (B) Explain directivity of a microphone. Draw different directional patterns and specify their applications. [5]
- (C) Write down a short note about power amplifier. [5]

OR

- (C) Write down methods used for optical recording of sound on film and explain any one of them. [5]

Q:5 Answer the following question.

- (A) Sketch VSB channel of 7Mhz. and show the position of various carriers. [5]
 - (B) Draw and explain the block diagram of the IF amplifier section of a TV receiver. [5]
- OR
- (A) Describe briefly co-channel and adjacent channel interference effects. [5]
 - (B) Draw and explain the block diagram of the sound section of a monochrome receiver. [5]

Q:6 Answer the following question.

- (A) Write short note on HDTV. [5]
 - (B) Give comparison of NTSC and PAL colour systems. [5]
- OR
- (A) What is Plasma TV? State advantages and disadvantages of Plasma TV. [5]
 - (B) Explain the function of the comb filter with reference to colour TV receiver. [5]