Code No: 07A70403 **R07** **Set No. 2**

IV B.Tech I Semester Examinations,December 2011
TELEVISION ENGINEERING
Electronics And Communication Engineering

Time: 3 hours Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Explain the block diagram of a video amplifier in a Black and White TV receiver.

   (b) What are the factors that influence the choice of IF in TV receivers. [10+6]

2. (a) Draw a block diagram of a TV tuner and explain the functions of each block.

   (b) Write short notes on high pass filter and trap circuits in VHF tuner. [10+6]

3. (a) Explain the working of YAGI-UDA Antenna for TV receivers.

   (b) Write short notes on video signal quantization. [10+6]

4. (a) How many lines are blanked out in each frame in case of 625 line system? Explain.

   (b) Calculate vertical blanking signals for 625 line system. [8+8]

5. Write about the following:

   (a) Ghost Image.

   (b) Air plane flutter.

   (c) Leading ghost. [5+5+6]

6. (a) With a neat sketch, explain the operation of RGB matrixing and drive amplifier circuit.

   (b) Write short notes on Burst Pulse Blanking. [10+6]

7. Write about monochrome TV standards for a 525 lines system and compare it with a 625 line system. [16]

8. Discuss the processing of video signal of the picture to set composite video signal in detail. [16]

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Code No: 07A70403

| R07 |

| Set No. 4 |

IV B.Tech I Semester Examinations,December 2011
TELEVISION ENGINEERING
Electronics And Communication Engineering

Time: 3 hours
Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. Draw the diagram of picture tube which employs electrostatic focusing and electromagnetic deflection and explain its working. [16]

2. Draw the block diagram of monochrome TV camera and explain each block. [16]

3. (a) List the advantages of AGC.

   (b) Explain the slope detection of the FM signal. [6+10]

4. Explain how integrating and differentiating circuits are employed to separate vertical and horizontal sync pulses. Draw the typical circuit and explain its operation. Indicate how a noise gate can be added to it. [16]

5. (a) Describe briefly the factors that influence the choice of picture IF= 38.9MHz and sound IF=33.4MHz in the 625-B (CCIR) television system.

   (b) Write short notes on raster circuits. [8+8]

6. (a) With a neat sketch, explain the operation of Burst phase discriminator circuit in detail.

   (b) Write short notes on colour saturation control. [10+6]

7. Explain the necessity of the vertical sync of monochrome signal with relevant figures. [16]

8. Draw the block diagram of a 10 Kw VHF Transmeter using high level modulation and explain the function of each block and also compare the performance of it with low level modulation Transmitter. [16]

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Code No: 07A70403 | **R07** | **Set No. 1**

IV B.Tech I Semester Examinations,December 2011
TELEVISION ENGINEERING
Electronics And Communication Engineering

Time: 3 hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
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1. Write the principle of interlaced scanning and explain how flicker can be eliminated in interlaced scanning? [16]

2. Write about the following with reference to picture tube.

   (a) Beam velocity.

   (b) High voltage focusing.

   (c) Low voltage focusing. [5+5+6]

3. With the suitable circuit diagrams describe how the delay line technique is employed to average U and V signals that enables separation of the two for feeding on to corresponding demodulators. [16]

4. (a) Draw the block diagram of the vertical deflection system in monochrome TV receiver and explain the functions of each block.

   (b) Write short notes on Automatic Fine Tuning in PAL-D colour receiver. [8+8]

5. (a) Discuss briefly about the design requirements of the IF amplifier section of monochrome and colour TV receivers.

   (b) With a neat sketch explain briefly about the operation of Foster-Seely discriminator circuit. [8+8]

6. (a) Discuss about complementary symmetry relaxation oscillator.

   (b) Write short notes on Data Compression. [10+6]

7. Write about the followings:

   (a) Aperture correction.

   (b) Gamma correction.

   (c) Shading correction. [5+5+6]

8. (a) Draw the block diagram of CIN diplexer and explain the function of each block.

   (b) Explain how trunstile antenna is used for TV transmission. [16]

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Code No: 07A70403 | R07 | Set No. 3

IV B.Tech I Semester Examinations,December 2011
TELEVISION ENGINEERING
Electronics And Communication Engineering

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Explain with a suitable block diagram the basic principle of a comb filter.
   (b) Explain briefly about deflection circuits.   [8+8]

2. Explain the operation of basic TV transmitter with a neat block diagram.   [16]

3. (a) Explain with a suitable circuit diagram how saturation control affects change in the magnitude of chroma signal.
   (b) Write short notes on reference oscillator.   [10+6]

4. Write about the following
   (a) Light transfer characteristics.
   (b) Sensitivity.
   (c) Spectral response of monochrome TV.
   (d) Resolving power.   [4×4=16]

5. (a) With a neat sketch, explain the operation of diode noise gate circuit.
   (b) Draw a block diagram of Differential peak FM detector and explain the functions performed by each block.   [8+8]

6. (a) Write about picture tube specifications and explain.
   (b) Explain Spark gap protection.   [10+6]

7. (a) Draw a composite video signal for three horizontal black & white lines and locate important points.
   (b) How do you calculate the highest frequency components of 525 line and 60 Hz system? Explain.   [10+6]

8. Explain the block diagram and typical peripheral circuitry of the IC CA920. [16]

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