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

IV B.Tech I Semester Examinations,MAY 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. Discuss various characteristics of TV cameras by showing a typical camera tube. [16]
2. (a) Discuss in detail the modulation methods used for TV transmission.
   (b) What is vestigial side band transmission? Explain. [16]
3. Draw the diagram of picture tube which employs electrostatic focusing and electromagnetic deflection and explain its working. [16]
4. (a) Discuss about complementary symmetry relaxation oscillator.
   (b) Write short notes on Data Compression. [10+6]
5. (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]
6. (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]
7. (a) With a neat sketch, explain the operation of remote control infrared transmitter.
   (b) What are the merits of keyed AGC system? [10+6]
8. (a) Explain how composite video signal is detected? How the polarity of video output signal is decided?
   (b) Discuss in detail IF sub system in PAL-D colour receiver. [8+8]

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Code No: 07A70403 **R07** **Set No. 4**

IV B.Tech I Semester Examinations,MAY 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) With a neat sketch, explain the operation of transistor keyed AGC circuit.
   (b) What are the functions of TV tuner? [8+8]
2. (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]
3. Write about the followings parameters.
   (a) Transmitter Efficiency.
   (b) Adjacent channel interference.
   (c) Co channel interference.
   (d) Sound signal BW. [4×4=16]
4. Write about the following.
   (a) Color difference signals
   (b) Compatibility of the color difference signals. [8+8]
5. Discuss in detail 625 line monochrome system. [16]
6. Write about the following
   (a) Light transfer characteristics.
   (b) Sensitivity.
   (c) Spectral response of monochrome TV.
   (d) Resolving power. [4×4=16]
7. (a) Draw the block diagram of the Y channel of a PAL-D colour receiver and explain the need of notch filter and delay line in the path of Y signal.
   (b) Write short notes on chroma decoder. [10+6]
8. Explain the circuit of the line and frame combination in IC TDA2578A. [16]

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

IV B.Tech I Semester Examinations,MAY 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) Why RF tuner is required in mono chrome TV receiver, explain its function in receiver with suitable diagram.
   (b) How to choose the range of IF amplifier in TV receiver and draw the video IF response. [8+8]
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. Draw the block diagram of monochrome TV camera and explain each block. [16]
4. (a) Calculate the time period for a horizontal sync pulse in 625 line system.
   (b) Discuss about the serrations. [10+6]
5. Explain the basic principle of a synchronous demodulator. Illustrate its operation by explaining how chroma signal of a particular hue gets detected to deliver (B-Y) and (R-Y) signals. [16]
6. (a) What are the requirements for TV broadcasting antenna, give some examples?
   (b) What are the characteristics of TV reception antenna & mention such type of Antennas? [8+8]
7. (a) Explain any one of the method to cancel the noise present in video signal.
   (b) How DC voltages are provided and adjusted while tuning different bands and channels in varactor tuned VHF tuner? [10+6]
8. Draw the block diagram of an UP-LINK set-up and explain how the signals are compressed, packetised and multiplexed before modulation and transmission. [16]

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

IV B.Tech I Semester Examinations,MAY 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) With a neat circuit diagram, explain the operation of tuned amplifier employing forward AGC.
   (b) Discuss briefly about the slope detection of the FM signal. [8+8]
2. (a) Explain with a suitable block diagram the basic principle of a comb filter.
   (b) Explain briefly about deflection circuits. [8+8]
3. Draw the figure of monochrome picture tube and explain its working. [16]
4. (a) Explain how to generate a color signal.
   (b) Sketch the video signal for color signals and explain it. [10+6]
5. (a) Draw the block diagram of a digital broadcast receiver-decoder and explain the functions of each block.
   (b) Write short notes on Parabolic Reflector Antenna. [10+6]
6. (a) Explain how to seperate the frame and line sync pulses from chrominance video signal.
   (b) Draw the single ended AFC circuit and explain its operation. [8+8]
7. Write about the followings:
   (a) Aperture correction.
   (b) Gamma correction.
   (c) Shading correction. [5+5+6]
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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