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

IV B.Tech I Semester Examinations,NOVEMBER 2010
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) Draw the block diagram of the sound section of a monochrome TV receiver and explain the functions performed by each block.
   (b) Write short notes on Automatic Frequency Control in PAL-D colour receiver. [10+6]
2. Draw the diagram of picture tube which employs electrostatic focusing and electromagnetic deflection and explain its working. [16]
3. (a) With a neat sketch, explain the operation of transistor keyed AGC circuit.
   (b) What are the functions of TV tuner? [8+8]
4. (a) Explain how to generate a color signal.
   (b) Sketch the video signal for color signals and explain it. [10+6]
5. (a) Discuss about complementary symmetry relaxation oscillator.
   (b) Write short notes on Data Compression. [10+6]
6. 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]
7. (a) Explain the effect of shadow zones in space wave propogation of TV signals at VHF & UHF.
   (b) What are the different interference problems present in the desired channel frequency range of TV signals. [16]
8. What is the construction of the deflection unit for a camera tube and discuss in detail? [16]

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

IV B.Tech I Semester Examinations,NOVEMBER 2010
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) What are the functional requirements of RF Tuner?
   (b) Draw the block diagram of RF Tuner and explain how incoming signals from different stations are translated to common picture IF and sound IF frequencies. [6+10]
2. (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]
3. What is the bandwidth of color TV signals and how it is arrived at? Explain in detail. [16]
4. Write about the various problems in vidicon camera tube and their remedies. [16]
5. (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]
6. (a) Explain, why TV transmitter work at 40MHz frequencies?
   (b) Why sound IF and picture IF will be at 33.4MHz and 38.9MHz. Explain.
   (c) Compare the positive & negative modulations. [5+5+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 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,NOVEMBER 2010
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 how noise cancellation is done by a separate noise gate amplifier.
   (b) Draw the block diagram of Phase Locked Loop FM detector and explain the functions of each block. [8+8]
2. Draw the block diagrams of SECAM coder & decoder and explain. [16]
3. (a) What are the requirements for compatibility of color difference signals?
   (b) Write in detail about additive color mixing. [8+8]
4. (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]
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. List out the various applications of different camera tubes and their advantages. Draw the structure of any one of it & explain its functioning. [16]
7. 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]
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. 3**

IV B.Tech I Semester Examinations,NOVEMBER 2010
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) Discuss in detail about chroma signal amplifiers.
   (b) Write short notes on colour killer circuit. [10+6]
2. Explain the following.
   (a) Spectral response.
   (b) Resolution.
   (c) Sensitivity
   (d) Photo masking. [16]
3. (a) With a suitable block diagram explain how accuracy is achieved and maintained using digital tuning of electronic tuners.
   (b) What are the drawbacks of nonkeyed AGC? [10+6]
4. Describe PAL encoder with block diagram and explain each block in detail & also compare its advantages & disadvantages with other color encoders. [16]
5. Draw the circuit diagram of Blocking oscillator and wave shaper for driving vertical deflection amplifier and explain its operation. [16]
6. Discuss in detail 625 line monochrome system. [16]
7. (a) Draw the block diagram of CIN diplexer and explain the function of each block.
   (b) Explain how trunastile antenna is used for TV transmission. [16]
8. (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]

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