Code No: RR410403 **RR** **Set No. 2**

IV B.Tech I Semester Examinations,November 2010
TV 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 principle of operation of burst phase ident amplifier and color killer generation circuit.
   (b) Explain how R,G & B video signals can be directly obtained from Y and demodulated U & V signals. [8+8]
2. (a) Explain why ion traps are used in picture tubes. With neat diagrams, discuss about bent gun and diagonal cut tilted lens ion traps.
   (b) Explain how the electron beam is focused using electrostatic focusing in a pictures tube. [10+6]
3. (a) Draw the circuit of NTSC coder and explain how the chrominance signal is interleaved with the Y signal after quadrature modulation.
   (b) Write short notes on color sub carrier frequency in NTSC system. [10+6]
4. (a) Explain the block diagram of video amplifier in B&W receiver.
   (b) Describe briefly the factors that influence the choice of PIF = 38.9 MHz and SIF = 33.4 MHz in 625 line (CCIR-B) TV system. [8+8]
5. (a) With the help of circuit diagram, explain the principle of operation of forward AGC.
   (b) Explain the requirements of AGC circuit and what is the purpose of delayed AGC. [8+8]
6. (a) With a neat diagram, explain the importance of interlaced scanning.
   (b) With a suitable diagram, describe the principle of operation of color camera. Also explain why dichroic mirrors are used in the camera. [8+8]
7. (a) Explain the operation of single - ended AFC circuit.
   (b) Draw the block diagram of sync separator, AFC network and deflection circuits of a television receiver. [10+6]
8. (a) Draw camera outputs for V_R, V_G, V_B for primary and complementary colors. Why and how are the outputs normalized.
   (b) Explain the significance of color difference signals. Write expressions for R-Y, B-Y and G-Y in terms of R,G,B. [8+8]

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Code No: RR410403 **RR** **Set No. 4**

IV B.Tech I Semester Examinations,November 2010
TV 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 video amplifier in B&W receiver.
   (b) Describe briefly the factors that influence the choice of PIF = 38.9 MHz and SIF = 33.4 MHz in 625 line (CCIR-B) TV system. [8+8]
2. (a) Draw camera outputs for V_R, V_G, V_B for primary and complementary colors. Why and how are the outputs normalized.
   (b) Explain the significance of color difference signals. Write expressions for R-Y, B-Y and G-Y in terms of R,G,B. [8+8]
3. (a) With the help of circuit diagram, explain the principle of operation of forward AGC.
   (b) Explain the requirements of AGC circuit and what is the purpose of delayed AGC. [8+8]
4. (a) Explain the operation of single - ended AFC circuit.
   (b) Draw the block diagram of sync separator, AFC network and deflection circuits of a television receiver. [10+6]
5. (a) With a neat diagram, explain the importance of interlaced scanning.
   (b) With a suitable diagram, describe the principle of operation of color camera. Also explain why dichroic mirrors are used in the camera. [8+8]
6. (a) Draw the circuit of NTSC coder and explain how the chrominance signal is interleaved with the Y signal after quadrature modulation.
   (b) Write short notes on color sub carrier frequency in NTSC system. [10+6]
7. (a) Explain why ion traps are used in picture tubes. With neat diagrams, discuss about bent gun and diagonal cut tilted lens ion traps.
   (b) Explain how the electron beam is focused using electrostatic focusing in a pictures tube. [10+6]
8. (a) Explain the principle of operation of burst phase ident amplifier and color killer generation circuit.
   (b) Explain how R,G & B video signals can be directly obtained from Y and demodulated U & V signals. [8+8]

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Code No: RR410403 **RR** **Set No. 1**

IV B.Tech I Semester Examinations,November 2010
TV 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 operation of single - ended AFC circuit.
   (b) Draw the block diagram of sync separator, AFC network and deflection circuits of a television receiver. [10+6]
2. (a) Draw camera outputs for V_R, V_G, V_B for primary and complementary colors. Why and how are the outputs normalized.
   (b) Explain the significance of color difference signals. Write expressions for R-Y, B-Y and G-Y in terms of R,G,B. [8+8]
3. (a) Explain the block diagram of video amplifier in B&W receiver.
   (b) Describe briefly the factors that influence the choice of PIF = 38.9 MHz and SIF = 33.4 MHz in 625 line (CCIR-B) TV system. [8+8]
4. (a) Explain the principle of operation of burst phase ident amplifier and color killer generation circuit.
   (b) Explain how R,G & B video signals can be directly obtained from Y and demodulated U & V signals. [8+8]
5. (a) Explain why ion traps are used in picture tubes. With neat diagrams, discuss about bent gun and diagonal cut tilted lens ion traps.
   (b) Explain how the electron beam is focused using electrostatic focusing in a pictures tube. [10+6]
6. (a) With a neat diagram, explain the importance of interlaced scanning.
   (b) With a suitable diagram, describe the principle of operation of color camera. Also explain why dichroic mirrors are used in the camera. [8+8]
7. (a) With the help of circuit diagram, explain the principle of operation of forward AGC.
   (b) Explain the requirements of AGC circuit and what is the purpose of delayed AGC. [8+8]
8. (a) Draw the circuit of NTSC coder and explain how the chrominance signal is interleaved with the Y signal after quadrature modulation.
   (b) Write short notes on color sub carrier frequency in NTSC system. [10+6]

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Code No: RR410403 **RR** **Set No. 3**

IV B.Tech I Semester Examinations,November 2010
TV 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 why ion traps are used in picture tubes. With neat diagrams, discuss about bent gun and diagonal cut tilted lens ion traps.
   (b) Explain how the electron beam is focused using electrostatic focusing in a pictures tube. [10+6]
2. (a) With the help of circuit diagram, explain the principle of operation of forward AGC.
   (b) Explain the requirements of AGC circuit and what is the purpose of delayed AGC. [8+8]
3. (a) Explain the block diagram of video amplifier in B&W receiver.
   (b) Describe briefly the factors that influence the choice of PIF = 38.9 MHz and SIF = 33.4 MHz in 625 line (CCIR-B) TV system. [8+8]
4. (a) Explain the principle of operation of burst phase ident amplifier and color killer generation circuit.
   (b) Explain how R,G & B video signals can be directly obtained from Y and demodulated U & V signals. [8+8]
5. (a) Draw the circuit of NTSC coder and explain how the chrominance signal is interleaved with the Y signal after quadrature modulation.
   (b) Write short notes on color sub carrier frequency in NTSC system. [10+6]
6. (a) With a neat diagram, explain the importance of interlaced scanning.
   (b) With a suitable diagram, describe the principle of operation of color camera. Also explain why dichroic mirrors are used in the camera. [8+8]
7. (a) Explain the operation of single - ended AFC circuit.
   (b) Draw the block diagram of sync separator, AFC network and deflection circuits of a television receiver. [10+6]
8. (a) Draw camera outputs for V_R, V_G, V_B for primary and complementary colors. Why and how are the outputs normalized.
   (b) Explain the significance of color difference signals. Write expressions for R-Y, B-Y and G-Y in terms of R,G,B. [8+8]

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