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SARDAR PATEL UNIVERSITY

B.Sc. Fifth semester

Electronics

US05CELE06

Analog Communication-1

Monday, 25/11/2013

Time: - 10:30 To 1:30 PM

Marks: - 70

Q.1 Choose the correct answer (Attempt all) (10)

- (1) What should be the bandwidth of radio receiver for higher selectivity?
(a) 10 KHz. (c) 20 KHz.
(b) 30 KHz. (d) 40 KHz.
- (2) In which frequency band the broadcast radio receiver operates?
(a) Micro wave. (c) Medium wave.
(b) VHF. (d) UHF.
- (3) Which type of oscillator is used in local oscillator stage of radio receiver?
(a) RC oscillator. (c) LC oscillator.
(b) Crystal oscillator. (d) None of above.
- (4) Howling in the reproduced audio signals is due to _____
(a) Positive feedback in IF amp. (c) Fading in received signals.
(b) Variation in supply voltage. (d) None of above.
- (5) Which circuit refinement removes the variations from reproduced sound?
(a) AVC. (c) AFC.
(b) ADC. (d) DAC.
- (6) What is the standard value of the Intermediate Frequency?
(a) 1000 KHz. (c) 100 KHz.
(b) 456 KHz. (d) 564 KHz.
- (7) The sensitivity of the camera tube is reduces by _____
(a) Large Dark current. (c) Poor Gamma.
(b) Low Time lag. (d) Poor Resolution.
- (8) What is the principle of operation of the Image orthicon camera tube?
(a) Photo radiation. (c) Photo lithography.
(b) Photo conduction. (d) Photo emission.
- (9) What is used to match the impedance at TV receiver input?
(a) IF traps. (c) Balun.
(b) RF tuner. (d) Local Oscillator.
- (10) What is the bandwidth of stagger tuned circuit of the RF amplifier?
(a) 7 MHz (c) 5.5 MHz
(b) 1.25 MHz (d) 15525 Hz.

Q2 Answer the following questions (Any Ten) (20)

- (1) List the main functions performed by the broadcast radio receiver and explain them.
- (2) List and explain the salient features of the radio receiver.
- (3) List the advantages of having RF amplifier in Radio receiver.
- (4) Why the Local Oscillator and the RF amp stage are ganged together.
- (5) What is the need of the AGC in radio receiver?
- (6) Which type of diode is used in detector stage of radio receiver?
- (7) Explain the function of synchronizing pulses.
- (8) List the limitations of Rectangular switching.
- (9) Draw the light transfer characteristics curve of the camera tube and explain what is Gamma?
- (10) Draw the circuit of impedance matching transformer used in RF tuner.
- (11) What are IF traps? Draw the circuit of IF Traps and explain it.
- (12) What is stagger tuning?

- Q3 (a) Draw the circuit of Simple Crystal receiver and explain it. (05)
(b) Draw the block diagram of TRF receiver and explain it. (05)

OR

- Q3 Draw the block diagram of Super heterodyne Radio receiver and explain function of each block. (10)

- Q4 Draw the circuit of the IF amplifier, explain its working and also discuss how the circuit is neutralized. (10)

OR

- Q4 Draw the circuit of the RF amplifier and explain its working and also list the advantages and disadvantages of RF amplifier. (10)

- Q5 Draw the wave forms and discuss the standards of the Horizontal Blanking and Synchronizing pulses. (10)

OR

- Q5 Explain the principle of Vidicon camera tube and give its constructional details. (10)

- Q6 With the help of the block diagram briefly explain black and white broadcast Television receiver. (10)

OR

- Q6 Write a note on RF tuner with necessary diagrams. (10)

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