

SEAT No. _____

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[5]

SARDAR PATEL UNIVERSITY V.V. NAGAR

B.Sc. (4th SEM.) ELECTRONICS

4th October-2022, EXAMINATION

SUB- RADIO AND TELEVISION SYSTEM

SUB.CODE-US04CELC02



TIME: 12:30 pm to 2:30 pm

MARKS- 70

Q-1 Choose correct answer

[10]

1. AGC full name _____
(A) Automatic gain control (C) Adjust group command
(B) Automatic gross control (D) None of above
2. The standard value of the intermediate frequency is _____.
(A) 1 MHz (C) 100 KHz
(B) 456 KHz (D) 455 KHz
3. _____ is used for impedance matching.
(A) Balun (C) IF amplifier
(B) RF amplifier (D) AGC
4. The local oscillator frequency is kept _____ than RF signal frequency.
(A) Same (C) Lower
(B) Higher (D) not-definite
5. Aperture of the camera tube is same as diameter _____.
(A) of lens system (C) of camera tube
(B) of electron beam (D) all of above
6. Fidelity of the radio receiver determines the _____ of reproduce signal.
(A) frequency (C) quality
(B) distortion (D) None of above
7. _____ Circuit refinement helps in proper tuning of the receiver.
(A) AFC (C) Limiter
(B) AGC (D) Radio receiver
8. The aspect ratio of T.V. communication system used in India is _____.
(A) 2:3 (C) 3:2
(B) 3:3 (D) 1:3
9. In TV receiver the local oscillator uses a transistor in _____ configuration.
(A) CB (C) CC
(B) CE (D) Both (A) and (B)
10. Dark current of the camera tube must be _____.
(A) as low as possible (C) medium
(B) as high as possible (D) infinite

Q-2 Filling the blank and True / False [08]

- 1 Broadcast television service in India operates in ____ band of frequency.
- 2 In an AM radio transmitter, the carrier signal is produced by _____.
- 3 Medium wave broadcast is used for _____.
- 4 _____ stage of radio receiver is responsible for selecting desire signal.
- 5 The image orthicon camera tube operates on principle of photo emission.
(True/ False)
- 6 Long wave broadcast transmitter is used in tropical countries. (True/ False)
- 7 The line frequency of CCIR system-B standard is 13625 line/second.
(True/ False)
- 8 Sensitivity of radio receiver is high. (True/ False)

Q-3 Short answer type question. (Any ten) [20]

1. Draw the frequency response curve of RF amplifier.
2. State function of local oscillator.
3. Draw the circuit of linear diode detector.
4. List advantage of RF amplifier.
5. Why frequency mixture required? Briefly explain it.
6. Write full name of AFC and briefly explain it.
7. List and explain basic function performed by radio receiver.
8. Enlist important of IF trap.
9. Briefly explain composite video signal.
10. State principle of super heterodyne receiver.
11. Define Aspect ratio.
12. Briefly explain dark current.

Q-4 Answer the following (any Four) [32]

1. Draw the block diagram of the radio transmitter using low level modulation and explain it.
2. Write a note on super heterodyne receiver.
3. What is IF amplifier? Draw block diagram of IF and discuss its function in detail.
4. Discuss the function of RF amplifier with necessary circuit diagram.
5. Explain method of interlace scanning with diagrams in detail.
6. Explain functional requirements of RF tuner in detail.
7. Explain in detail construction of Vidicon camera tube with necessary diagram.
8. Draw the block diagram of B/W television receiver and briefly discuss function of each section.

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