

SARDAR PATEL UNIVERSITY
B.Sc. (5th Semester) Examination
Friday, 22nd November 2019
10:00 a.m. to 1:00 p.m.
US05CELE06 – Analog Communication

Total Marks : 70

Q.1 Choose the correct answer

[10]

1. Quality of the reproduced sound program depends on _____.
 (a) Fidelity (b) Adaptability of the receiver (c) Sensitivity of receiver
2. A Radio receiver _____ the RF carrier to get back the original modulation frequency voltage.
 (a) Amplifies (b) Accepts (c) Detects
3. _____ reproduces the sound to produce the original programs.
 (a) Loudspeaker (b) Receiver (c) Oscillator
4. A properly designed AVC system reduces the _____ variation due to fading from a high value of 30 to 40 dB to a power small value of 3 to 4 dB.
 (a) Current (b) Amplitude (c) Power
5. _____ per stage of I.F. amplifier is higher than that in one stage of RF amplifier using the same transistor.
 (a) Current (b) Amplification (c) Voltage
6. Electron multiplier system consisting of succession of surfaces called _____ which are kept at progressively higher positive potential and treated to produce secondary electron emission.
 (a) Anodes (b) Cathodes (c) Dynodes
7. The Aspect ratio in TV communication is always adjusted to _____.
 (a) 4:3 (b) 3:4 (c) 16:9
8. The signals of the desired channel in TV receivers are selected by _____.
 (a) RF tuner (b) Balun (c) IN traps
9. The device used to match the impedance at the TV receiver input is called _____.
 (a) Balun (b) IF traps (c) RF tuner
10. The RF tuner through the use of _____ isolates the local oscillator from the antenna.
 (a) RF Amplifier (b) AF Amplifier (c) Frequency mixer

Q.2 Answer any TEN questions in brief

[20]

1. What is a radio receivers?
2. What are the functions of RF amplifier used in a radio receiver ?
3. Give classifications of radio receiver.
4. What is the need of delayed AGC ?
5. Why local oscillator and RF amplifier are ganged together ?
6. Draw the circuit of linear diode detector with π -filter and simple AVC.
7. What is Aspect ratio ?
8. What is the function of television cameras tube?

(P.T.O)

9. What is limitation of rectangular switching?
10. What are the function of RF amplifier used in TV receiver?
11. What is the function of IF Traps in the TV receiver?
12. What are the basic requirements of video IF amplifier used in TV receiver ?

Q.3 Draw the block diagram of super heterodyne receiver and briefly explain the function of the different constituent parts. [10]

OR

Q.3 List the basic functions of AM receiver and explain each in detail. [10]

Q.4 Draw the circuit of RF amplifier used in a radio receiver and explain its working. [10]

OR

Q.4 Draw the circuit of frequency mixer using two transistors used in broadcast radio receiver & explain its working. [10]

Q.5 Explain the construction and working of image orthicon. [10]

OR

Q.5 Discuss in detail the composite video signal. [10]

Q.6 Discuss in detail the interstage coupling methods. [10]

OR

Q.6 Draw the block diagram of broadcast TV receiver and explain it. [10]

