

[32/A-13]

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SARDARPATEL UNIVERSITY

T.Y.B.Sc. (VI – SEM.) INSTRUMENTATION (Voc.) EXAMINATION-2018

Title : Signal conditioning and communication Code : US06CINV06

DATE : 06/04/2018, Friday TIME : -10:00 am to 01:00 pm

MARKS-70

Q-1 Choose correct answer [10]

1. In frequency modulation process, the _____ of carrier is constant.
(A) Amplitude. (C) Frequency.
(B) Phase. (D) None of these.
2. Frequency converter circuit uses _____ transistor.
(A) One. (C) Two.
(B) Three. (D) None of these.
3. IF Frequency in case of AM radio receiver is _____.
(A) 455 KHz (C) 455 MHz
(B) 45 MHz (D) None of these.
4. The standard Aspect ratio of T.V is _____.
(A) 4:3 (C) 3:4
(B) 4:4 (D) None of these
5. The problem of Flicker in television is solved by _____ scanning.
(A) Interlaced. (C) regular scanning.
(B) photo voltaic. (D) None of these
6. Image orthicon tube works on principle of _____.
(A) Photo emission (C) Photo conduction
(B) blanks (D) None of these
7. _____ is used to match the impedance of T V receiver to the input.
(A) Balun (C) IF Trap
(B) RF Tuner (D) None of these
8. In TV picture signal is _____ modulated.
(A) AM (C) PM
(B) FM (D) None of these
9. Bourdon Tube is not used in _____ telemetry.
(A) Voltage (C) Radio Frequency
(B) Current (D) None of these
10. In TV, sound signal is _____ modulated.
(A) AM (C) PM
(B) FM (D) None of these

Q-2 Short answer type question. (any ten) [20]

1. What is frequency modulation?
2. Explain amplitude modulation drawing, with necessary diagram.
3. List the main functions of a radio receiver.
4. Explain Aspect Ratio.
5. What is interlaced scanning ?
6. Enlist the characteristics of camera tube.
7. Draw the Block diagram of V H F tuner.
8. List application of additive mixing of colours.
9. List application of subtractive mixing of colours.
10. Telemetry, discuss it in brief.
11. Draw the block diagram of general telemetry system.
12. Define Amplitude modulation.

①

[P.T.O.]

Q.3 Draw the Block diagram of Amplitude Modulated radio transmitter using higher carrier power modulation and explain function of each block in detail. [10]

OR

Q.3 What is super heterodyne process? Draw the block diagram of Super Heterodyne Radio Receiver, Explain function of each block, in detail. [10]

Q.4 Draw the neat diagram of image orthicon camera tube and explain its working. [10]

OR

Q.4 Write a detail note on Vidicon camera tube. [10]

Q.5 Explain the working principle of Colour T V camera in detail. [10]

OR

Q.5 Draw the Block diagram of Black & White T V Receiver and explain working of each block in detail. [10]

Q.6 List different types of Land line telemetry and explain any two in detail. [10]

OR

Q.6 Give an account of pulse code modulation telemetry. [10]