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[A-58]

SARDAR PATEL UNIVERSITY

B.Sc. Sem.- 6th (CBCS) Examination

9th April -2016

Signal Conditioning and Communication

Course code -USO6CINV06

Time: 2:30 pm to 5:30 pm

TOTAL MARKS: 70

Q. 1 Choose the correct answer.

[10]

- (1) In plot of frequency spectrum of amplitude modulation. There are _____ side bands.
 - (A) 2
 - (B) 3
 - (C) 4
 - (D) None of above
- (2) Intermediate Frequency in case of AM Radio Receiver is _____
 - (A) 455 KHz
 - (B) 425 Hz
 - (C) 450 Hz
 - (D) None of above
- (3) Frequency converter circuit uses _____ transistor.
 - (A) 1
 - (B) 3
 - (C) 2
 - (D) None of above
- (4) _____ is the aspect Ratio.
 - (A) 4:3
 - (B) 4:4
 - (C) 3:4
 - (D) None of above
- (5) Problem of flicker is solved by _____ scanning.
 - (A) Rectangular
 - (B) Parallel
 - (C) Interlaced
 - (D) None of above
- (6) _____ may be defined as a measurement at a distance.
 - (A) Telemetry
 - (B) Television
 - (C) Radio
 - (D) None of above
- (7) In frequency modulation amplitude of carrier remains _____
 - (A) Constant
 - (B) Doubles
 - (C) Changes
 - (D) None of above
- (8) In additive mixing of Red, Blue & Green resultant colour is _____
 - (A) White
 - (B) Blue
 - (C) black
 - (D) None of above
- (9) In subtractive mixing of Red, Green & Blue resultant Colour is _____
 - (A) White
 - (B) Blue
 - (C) black
 - (D) None of above
- (10) Blue dichoric mirror reflects _____ light.
 - (A) Blue
 - (B) Black
 - (C) Red
 - (D) None of above

Q.2 Answer the following in short.(Attempt Ten)

[20]

- (1) Explain Rectangular Scanning.
- (2) Explain interlaced Scanning.
- (3) Write a note on aspect Ratio.
- (4) Draw the schematic diagram of frequency mixer.
- (5) Draw the circuit of diode detector.
- (6) Explain FM drawing necessary waveforms.
- (7) Define Telemetry.
- (8) Draw the block diagram of general telemetry system
- (9) Draw the block diagram of frequency modulation telemetry system.
- (10) Draw the block diagram of VHF tuner.
- (11) Explain additive color mixing.
- (12) Explain subtractive color mixing.

Q.3 Draw the block diagram of B/W TV receiver and explain working of each block in brief. [10]

OR

Q.3 Give an account of color TV camera. [10]

Q.4 Give an account of amplitude modulation. [10]

OR

Q.4 Draw a neat diagram of superhetrodyne radio receiver and explain working of each block. [10]

Q.5 Give an account of vidicon camera tube. [10]

OR

Q.5 Draw a neat diagram of image orthicon camera tube and explain its working. [10]

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

OR

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

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(2)