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Courses » Modern Digital Communication Techniques

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Unit 2 - Week 0

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Course outline

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Assignment 0

The due date for submitting this assignment has passed. **Due on 2019-02-04, 23:59 IST**
As per our records you have not submitted this assignment.

1) The normalized power of the signal $x(t) = A \cos 2\pi f_0 t$ for $-\infty < t < \infty$ is - **1 point**

- a. $\frac{A^2}{2}$
- b. $\frac{A^2}{4}$
- c. $\frac{A^2}{8}$
- d. None of the above

- a
- b
- c
- d

No, the answer is incorrect.

Score: 0

Accepted Answers:

a

2) The period of $\cos(200\pi t) + \sin(400\pi t)$ is **1 point**

- a. 100
- b. 250
- c. 350
- d. 200

- a
- b

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3)

1 point

The intermediate frequency of a super heterodyne receiver is 500 kHz. What is the image frequency at 1200 kHz?

- a. 600 kHz
- b. 500 kHz
- c. 2200 kHz
- d. 800 kHz

- a
- b
- c
- d

No, the answer is incorrect.

Score: 0

Accepted Answers:

c

4)

- a.
- b.
- c.
- d.

1 point

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

5)

The power spectral density of an AWGN is

1 point

- a. A strictly increasing function of frequency
- b. A constant function of frequency
- c. A strictly decreasing function of frequency
- d. none of the above

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

6)

1 point

A frequency modulated signal can be demodulated by:

- a. Multiplying with carrier frequency followed by low pass filtering
- b. Passing through a voltage controlled oscillator (VCO)
- c. Passing through a differentiator followed by envelope detection
- d. Passing through an integrator followed by envelope detection

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

7) Phase Locked Loop (PLL) circuit can be used for which of the following reasons? **1 point**

- a. Carrier frequency tracking only
- b. Carrier Phase tracking only
- c. Both frequency and phase tracking
- d. None

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

8) **1 point**

The modulation scheme that requires least bandwidth and power is _____

- a. Single Sideband Modulation
- b. Double Sideband Modulation
- c. Vestigial Sideband Modulation
- d. Frequency Modulation

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

9) **1 point**

Which of the following is an advantage of using envelope detection as a demodulation scheme?

- a. It requires less transmission power
- b. It requires less transmission bandwidth
- c. It eliminates the necessity of carrier recovery
- d. It helps in the carrier recovery

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

10 The square-law modulator is used to generate the _____ signals?

1 point

- a. Amplitude Modulated
- b. Frequency Modulated
- c. All of the above
- d. None of the above

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

11. One of the main disadvantages of FM over AM is

1 point

- a. requires high output power
- b. high modulating power is needed
- c. large bandwidth required
- d. high noise is produced

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

12)

1 point

Which of the following modulation system is used for video-modulation?

- a. Single Sideband Modulation
- b. Double Sideband Modulation
- c. Vestigial Sideband Modulation
- d. Frequency Modulation

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

13)

1 point

In the Phase Modulation technique, the _____ of the carrier signal is varied according to the modulating signal.

- a. Frequency
- b. Amplitude
- c. Phase
- d. None of the above

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

14) The autocorrelation function of an AWGN is described by:

1 point

- a. A triangle function
- b. A delta function
- c. A square function
- d. None of the above

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

15 Which of the following is a digital modulation technique?

1 point

- a. Pulse Amplitude Modulation
- b. Pulse Width Modulation
- c. Amplitude Shift keying
- d. None of the above

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.



End