

Code No: 56067

Set No. 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. II Sem., II Mid-Term Examinations, April – 2014

PRINCIPLES OF COMMUNICATIONS

Objective Exam

Name: _____ Hall Ticket No.

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. The process of rounding analog samples to discrete samples is []
(A) Sampling process (B) Quantization process (C) Encoding process (D) none
2. The following Digital modulation has less probability of error []
(A) PSK (B) FSK (C) ASK (D) DPSK
3. The Hamming weight of the code vector $C = [011011]$ is []
(A) 1 (B) 2 (C) 3 (D) 4
4. The QPSK modulation contains -----number of phase shifts []
(A) 1 (B) 2 (C) 4 (D) 8
5. In AM transmitter, the Broad cast frequency range is _____ []
(A) 550 – 1650 KHz (B) 300- 3000MHz (C) 30- 300MHz (D) None
6. The Amplitude Shift Keying (ASK) is defined is ____ []
(A) Amplitude of the carrier signal changing. (B) Frequency of the Carrier signal varies
(C) Phase of the carrier signal changing (D) none
7. The typical communication system contains _____ []
(A) Transmitter (B) Channel (C) Receiver (D) All of the above
8. A Gaussian channel has 1MHz bandwidth and signal power to noise spectral density ratio (S/N) is 10^5 Hz. The channel capacity is ----- []
(A) 10^5 bits/sec (B) 26.8K bits/sec (C) 13.8 K bits/sec (D) None
9. A linear block code can correct _____ number of errors and detect ----- number of errors. $d_{min} =$ hamming distance) []
(A) $(d_{min} - 1)/2$ and d_{min} (B) $(d_{min} - 1)/2$ and $d_{min} - 1$
(C) $(d_{min} - 1)/2$ and $d_{min} / 2$ (D) None
10. The following Modulation is a one bit quantizer []
(A) PCM (B) DM (C) DPCM (D) None

Cont.....2

II Fill in the blanks

11. Companding is combination of ----- and -----.
12. Uniform quantization is defined as.....
13. Mathematical expression for Coding Efficiency (η) = -----
14. The mathematical expression of channel capacity C = -----
15. The PSK modulation defined as -----
16. Metric in Viterbi algorithm defined as -----
17. The time domain FSK modulation expression is -----
18. Slope overload distortion in DM occurred due to -----
19. If two message probabilities are $P(m_1)=0.5$ and $P(m_2)=0.5$ then Entropy (H) = -----
20. Modems stands for ----- and -----

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Set No. 2

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III B.Tech. II Sem., II Mid-Term Examinations, April – 2014

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Objective Exam

Name: _____ Hall Ticket No.

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. The QPSK modulation contains -----number of phase shifts []
(A) 1 (B) 2 (C) 4 (D) 8
2. In AM transmitter, the Broad cast frequency range is _____ []
(A) 550 – 1650 KHz (B) 300- 3000MHz (C) 30- 300MHz (D) None
3. The Amplitude Shift Keying (ASK) is defined is ____ []
(A) Amplitude of the carrier signal changing. (B) Frequency of the Carrier signal varies
(C) Phase of the carrier signal changing (D) none
4. The typical communication system contains _____ []
(A) Transmitter (B) Channel (C) Receiver (D) All of the above
5. A Gaussian channel has 1MHz bandwidth and signal power to noise spectral density ratio (S/ N) is 10^5 Hz. The channel capacity is ----- []
(A) 10^5 bits/sec (B) 26.8K bits/sec (C) 13.8 K bits/sec (D) None
6. A linear block code can correct _____ number of errors and detect ----- number of errors. $d_{\min} =$ hamming distance) []
(A) $(d_{\min} - 1)/2$ and d_{\min} (B) $(d_{\min} - 1)/2$ and $d_{\min} - 1$
(C) $(d_{\min} - 1)/2$ and $d_{\min} / 2$ (D) None
7. The following Modulation is a one bit quantizer []
(A) PCM (B) DM (C) DPCM (D) None
8. The process of rounding analog samples to discrete samples is []
(A) Sampling process (B) Quantization process (C) Encoding process (D) none
9. The following Digital modulation has less probability of error []
(A) PSK (B) FSK (C) ASK (D) DPSK
10. The Hamming weight of the code vector $C = [011011]$ is []
(A) 1 (B) 2 (C) 3 (D) 4

Cont.....2

II Fill in the blanks

11. The mathematical expression of channel capacity $C =$ -----
12. The PSK modulation defined as -----
13. Metric in Viterbi algorithm defined as -----
14. The time domain FSK modulation expression is -----
15. Slope overload distortion in DM occurred due to -----
16. If two message probabilities are $P(m_1)=0.5$ and $P(m_2)=0.5$ then Entropy (H) = -----
17. Modems stands for ----- and -----
18. Companding is combination of ----- and -----.
19. Uniform quantization is defined as.....
20. Mathematical expression for Coding Efficiency (n) = -----

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Set No. 3

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PRINCIPLES OF COMMUNICATIONS

Objective Exam

Name: _____ Hall Ticket No.

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. The Amplitude Shift Keying (ASK) is defined is ____ []
(A) Amplitude of the carrier signal changing. (B) Frequency of the Carrier signal varies
(C) Phase of the carrier signal changing (D) none
2. The typical communication system contains _____ []
(A) Transmitter (B) Channel (C) Receiver (D) All of the above
3. A Gaussian channel has 1MHz bandwidth and signal power to noise spectral density ratio (S/ N) is 10^5 Hz. The channel capacity is ----- []
(A) 10^5 bits/sec (B) 26.8K bits/sec (C) 13.8 K bits/sec (D) None
4. A linear block code can correct _____ number of errors and detect ----- number of errors. $d_{\min} =$ hamming distance) []
(A) $(d_{\min} - 1)/2$ and d_{\min} (B) $(d_{\min} - 1)/2$ and $d_{\min} - 1$
(C) $(d_{\min} - 1)/2$ and $d_{\min} / 2$ (D) None
5. The following Modulation is a one bit quantizer []
(A) PCM (B) DM (C) DPCM (D) None
6. The process of rounding analog samples to discrete samples is--- []
(A) Sampling process (B) Quantization process (C) Encoding process (D) none
7. The following Digital modulation has less probability of error---- []
(A) PSK (B) FSK (C) ASK (D) DPSK
8. The Hamming weight of the code vector $C = [011011]$ is ____ []
(A) 1 (B) 2 (C) 3 (D) 4
9. The QPSK modulation contains -----number of phase shifts []
(A) 1 (B) 2 (C) 4 (D) 8
10. In AM transmitter, the Broad cast frequency range is _____ []
(A) 550 – 1650 KHz (B) 300- 3000MHz (C) 30- 300MHz (D) None

Cont.....2

II Fill in the blanks

11. Metric in Viterbi algorithm defined as -----
12. The time domain FSK modulation expression is -----
13. Slope overload distortion in DM occurred due to -----
14. If two message probabilities are $P(m_1)=0.5$ and $P(m_2)=0.5$ then Entropy (H) = -----
15. Modems stands for ----- and -----
16. Companding is combination of ----- and -----.
17. Uniform quantization is defined as.....
18. Mathematical expression for Coding Efficiency (η) = -----
19. The mathematical expression of channel capacity C = -----
20. The PSK modulation defined as -----

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Set No. 4

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Name: _____ Hall Ticket No.

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. A Gaussian channel has 1MHz bandwidth and signal power to noise spectral density ratio (S/N) is 10^5 Hz. The channel capacity is ----- []
(A) 10^5 bits/sec (B) 26.8K bits/sec (C) 13.8 K bits/sec (D) None
2. A linear block code can correct _____ number of errors and detect ----- number of errors. $d_{\min} =$ hamming distance) []
(A) $(d_{\min} - 1)/2$ and d_{\min} (B) $(d_{\min} - 1)/2$ and $d_{\min} - 1$
(C) $(d_{\min} - 1)/2$ and $d_{\min}/2$ (D) None
3. The following Modulation is a one bit quantizer []
(A) PCM (B) DM (C) DPCM (D) None
4. The process of rounding analog samples to discrete samples is []
(A) Sampling process (B) Quantization process (C) Encoding process (D) none
5. The following Digital modulation has less probability of error []
(A) PSK (B) FSK (C) ASK (D) DPSK
6. The Hamming weight of the code vector $C = [011011]$ is ____ []
(A) 1 (B) 2 (C) 3 (D) 4
7. The QPSK modulation contains -----number of phase shifts []
(A) 1 (B) 2 (C) 4 (D) 8
8. In AM transmitter, the Broad cast frequency range is ____ []
(A) 550 – 1650 KHz (B) 300- 3000MHz (C) 30- 300MHz (D) None
9. The Amplitude Shift Keying (ASK) is defined is ____ []
(A) Amplitude of the carrier signal changing. (B) Frequency of the Carrier signal varies
(C) Phase of the carrier signal changing (D) none
10. The typical communication system contains ____ []
(A) Transmitter (B) Channel (C) Receiver (D) All of the above

Cont.....2

II Fill in the blanks

11. Slope overload distortion in DM occurred due to -----
12. If two message probabilities are $P(m_1)=0.5$ and $P(m_2)=0.5$ then Entropy (H) = -----
13. Modems stands for ----- and -----
14. Companding is combination of ----- and -----.
15. Uniform quantization is defined as.....
16. Mathematical expression for Coding Efficiency (η) = -----
17. The mathematical expression of channel capacity C = -----
18. The PSK modulation defined as -----
19. Metric in Viterbi algorithm defined as -----
20. The time domain FSK modulation expression is -----