

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 ( $\eta$ ) = -----
- 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 -----



**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 \_\_\_\_ [     ]  
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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 ( $\eta$ ) = -----
- 19. The mathematical expression of channel capacity  $C$ = -----
- 20. The PSK modulation defined as -----



**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 ( $\eta$ ) = -----
- 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 -----