C

Reg. No. :

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. A Binary Huffman coding is a   CO1- R

    (a) Prefix condition code   (b) Prefix & Suffix condition code

    (c) Suffix condition code   (d) None of the mentioned

2. Block length in a code word is a   CO2- R

    (a) Number of Non Zero elements   (b) Distance between elements

    (c) Number of parity bits   (d) Number of elements

3. Which type is used and preferred in digital logic circuits   CO3- R

    (a) NRZ-M   (b) NRZ-L   (c) Bipolar RZ   (d) RZ-AMI

4. BPSK system modulates at the rate of   CO4- R

    (a) 4 bit/ symbol   (b) 3 bits/symbol   (c)2 bits/symbol   (d) 1 bits/symbol

5.   Spread spectrum has immunity from   CO5- R

    (a) Multi-path distortion   (b) Noise & Multi-path distortion

    (c) Noise   (d) Natural phenomena

6. State Channel Coding Theorem and its need.   CO1- R

7. Define constraint length in convolutional code?   CO2- R

8. Outline the causes for ISI?   CO3- R

9. Define non-coherent detection.   CO4- R

10. Define Process gain and Jamming margin.   CO5- R

PART – C (5 x 16= 80 Marks)

11. (a) P = { 0.13, 0.1, 0.03, 0.15, 0.18, 0.41 } From the above CO1- App   (16)
         probability Find out the H, Average length , and efficiency Use
         Huffman Coding .

                                   Or

    (b) P = { 0.13, 0.1, 0.03, 0.15, 0.18, 0.41 } From the above CO1- App   (16)
         probability Find out the H, Average length , and efficiency Use
         Shannon Coding.

12. (a) For a systematic linear block code, the three parity check digits CO2- App   (16)
         P1, P2,P3 are given by $P_{k,n-k}$ = 101
                    111
                    110
                    011
         (i) Construct generated matrix.
         (ii) Assess the t code generated by the matrix.
         (iii) Determine error correcting capacity.
         (iv) Decode the received words with an example.

                                   Or

    (b) Explain the concept and design procedure of Viterbi decoding   CO2- App   (16)
         algorithm for a block code.

13. (a) Point out the types of Adaptive Equalizers in detail with neat   CO3- U   (16)
         diagrams.

                                   Or

    (b) Explain the Correlative level coding & Eye pattern.   CO3- U   (16)

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14. (a) Explain in details about ASK and PSK   CO4- U   (16)

Or

(b) Compare QAM & QPSK   CO4- Ana   (16)

15. (a) With an appropriate example explain the concept and working of   CO5- U   (16)
frequency hopping spread spectrum communication systems.
Give necessary equations.

Or

(b) Draw the block diagram of a direct sequence spread spectrum   CO5- U   (16)
transmitter and receiver and explain its function in detail.

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