Digital Communication

Paper : ECT-308E

Time : Three Hours]   [Maximum Marks : 100

Note :   Attempt any Five questions.

1.   (a) What is sampling theorem ? Explain the Nyquist criterion in detail.   10

     (b) What is quantization noise ? Give difference between uniform and non-uniform quantization.   10

2.   (a) Explain Pulse Amplitude Modulation with proper block diagram.   10

     (b) Explain μLaw and A-Law compounding with suitable diagram.   10

3.   (a) Explain properties of matched filter with explanation of energy to noise spectral density ratio.   10

     (b) Explain Ideal Nyquist Channel.   10

4.   What is Adaptive Equalization ? Explain LMS Algorithm in detail.   20

5.   Explain Pass Band Transmission Model with proper block diagram and working of each block.   20

6.   (a) What is coherent Binary PSK system ? Explain with signal space diagram.   10

     (b) Explain M-ary QAM system in detail.   10

7.   (a) Explain the properties of maximum length sequences.   12

     (b) Explain in detail a notion of spread-spectrum.   8

8.   (a) What is slow frequency hopping ? Explain with block diagram.   10

     (b) What is probability of error in Direct sequence BPSK binary system ?   10