

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain uniform and non-uniform quantisation procedures.
(ii) Write notes on speech coding at low bit rates.

Or

- (b) Explain Delta modulation and differential pulse code modulation systems.

12. (a) What is inter symbol interference? Explain the methods to minimise inter symbol interference.

Or

- (b) Write notes on :

- (i) Eye patterns.
(ii) Equalisation techniques.

13. (a) (i) What is a matched filter? Derive the expression for the impulse response of a matched filter.
(ii) Derive the bit error probability of a BPSK coherent receiver. Comment on the performance of the system.

Or

- (b) Explain a method each for carrier and timing synchronisation.

14. (a) Explain viterbi algorithm with an example.

Or

- (b) Explain
(i) Hamming codes
(ii) RS codes.

15. (a) (i) Explain the generation of pseudo noise sequence. Discuss its properties.
(ii) Write brief note on frequency hop system.

Or

- (b) Explain in detail direct sequence spread spectrum system.