Reg. No. : | | | | | | | | | | | |

L 1382

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Third Semester

Information Technology

IF 244 — PRINCIPLES OF COMMUNICATION

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Define periodic and aperiodic signals.

2. Write the applications of correlation.

3. What is the need for modulation?

4. Define the terms : Sensitivity and Selectivity of a receiver.

5. Draw the spectrum of following speech signal frequency 4 KHz and sampling frequency is 16 KHz.

6. Define inter symbol interference.

7. What is meant by antipodal signal given one example?

8. Draw the structure of QPSK.

9. Define spread spectrum.

10. Define Hamming code $H(7,4)$.

PART B — ($5 \times 16 = 80$ marks)

11. (a) Discuss the periodic and aperiodic signals spectral characteristics and give example. (16)

Or

(b) (i) What is meant by cross correlation and auto correlation? (4)

(ii) Describe stationary process and non-stationary process. (12)

12. (a) (i) Compare AM, FM, PM modulation. (8)

(ii) Explain in detail SSB-AM techniques. (8)

Or

(b) Describe FM stereo with a neat block diagram.

13. (a) Explain in detail PCM (Pulse Code Modulation) and ADPCM. Also discuss Adaptive differential pulse code modulation with a neat block diagram.

Or

(b) Write short notes on :

(i) Matched filter detection. (8)

(ii) Duo binary signaling. (8)

14. (a) Explain in detail the following :

(i) M-array PSK. (8)

(ii) M-array FSK. (8)

Or

(b) Discuss the comparison of binary and quaternary modulation techniques.

15. (a) Discuss frequency hop spread spectrum techniques. (16)

Or

(b) Explain in detail linear block codes with suitable properties.