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B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2012.

Third Semester

Information Technology

IT 2202/142302/IT 36/10144 IT 305/080250004 – PRINCIPLES OF COMMUNICATION

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define modulation index for AM.
2. What is meant by phase modulation?
3. What is meant by carrier recovery?
4. Give any two application of DPSK.
5. Define signal to quantization noise rate.
6. What is the significance of eye pattern?
7. What is meant by slow frequency hopping?
8. Define processing gain.
9. What are the advantages of optical fiber communication?
10. What is meant by footprint?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain in detail about frequency analysis of angle modulated waves and its bandwidth requirements. (8)

(ii) Write short notes on AM envelope and its frequency spectrum. (8)

Or

(b) (i) Explain about AM percent modulation, AM voltage distribution and power distribution with neat sketch. (8)

(ii) Compare frequency modulation and amplitude modulation. (8)

12. (a) Explain in detail about QPSK modulator and demodulator with neat diagram and also compare with BPSK. (16)

Or

(b) Explain in detail about FSK transmitter and receiver. (16)

13. (a) Define pulse modulation and explain about PCM circuit in detail. (16)

Or

(b) (i) Write a short notes on pulse transmission and intersymbol interference. (6)

(ii) Describe the adaptive delta modulation system with necessary diagram. (10)

14. (a) (i) Explain in detail about multiple access techniques in wireless communication with neat diagram. (10)

(ii) Generate PN sequence of length 7 using flip flops. (6)

Or

(b) Explain about DS spread spectrum with coherent binary PSK and also discuss about the processing gain. (16)

15. (a) With a neat diagram, explain briefly about the basic satellite communication systems. Also discuss its applications. (16)

Or

(b) Explain in detail about the elements of optical fiber transmission link with neat block diagram. (16)
