

Reg. No. :

Question Paper Code : 23376

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Third Semester

Computer Science and Engineering

CS 2204 — ANALOG AND DIGITAL COMMUNICATION

(Regulations 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Amplitude Modulation.
2. Differentiate between narrow band and wide band FM signal.
3. State Shannon's channel capacity theorem. Give an example.
4. Draw the constellation diagram of QPSK signal.
5. Define companding.
6. Define slope overload and granular noise.
7. What is the function of a modem?
8. What are the standard serial and parallel interlaces used?
9. What is meant by spread spectrum modulation?
10. What is wireless communication?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain about FM and PM. (8)
- (ii) Explain Bandwidth requirements for angle modulated wave. (8)

Or

- (b) (i) Explain the principle of amplitude modulation, voltage and power distribution. (8)
- (ii) Write a note on frequency analysis of angle modulated wave. (8)

12. (a) . With the neat diagrams, explain the FSK transmitter and receiver and its bandwidth requirement. (16)

Or

- (b) Explain any two techniques involved in carrier recovery. Give diagrams. (16)

13. (a) (i) With block diagram explain the PCM transmitter and receiver. (12)
(ii) What is intersymbol interference? How can it be reduced? (4)

Or

- (b) (i) Describe delta modulation system. What are its limitations? How can they be overcome? (12)
(ii) Give brief notes on eye pattern. (4)

14. (a) (i) Discuss the following error correcting methods (8)
(1) Retransmission.
(2) Forward Error Correction.
(ii) Describe data communication hardware with neat sketch. (8)

Or

- (b) (i) Discuss the following error detection techniques :
(1) Redundancy Checking
(2) Check sum
(3) Cyclic redundancy Checking. (8)
(ii) Discuss different data communication modems. (8)

15. (a) (i) Describe direct sequence spread spectrum with coherent BPSK. (8)
(ii) Describe Slow and Fast Frequency Hopping. (8)

Or

- (b) Describe the structure of feedback shift register for generating PN sequences.