

G 1677

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY/JUNE 2006

Fifth Semester

Branches : Computer Science and Engineering/Information Technology

DATA COMMUNICATION (R, T)

(New Scheme—2002 admission onwards)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. Explain each term of the equation $e = A \sin \left(\omega_c t + \frac{\delta}{f_m} \sin \omega_m t \right)$, of FM wave.
2. Explain Sampling theorem, with an example. What is aliasing ?
3. With a sketch, explain simplex and half-duplex modes of data transmission.
4. Explain the principle of message switching in digital communication.
5. Explain the significance of Shannon's channel capacity theorem.
6. Explain Statistical TDM. What are its advantages ?
7. Explain a method of detecting two-bit error and correcting 1-bit error.
8. Discuss the Go-back-n ARQ retransmission technique used for error correction in data communication.
9. With sketch, explain multidrop line in data communication. Give its advantages.
10. Briefly explain GSM service.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. With the help of block diagram, explain the generation of PCM.

Or

12. Compare and contrast different analog modulation schemes.
13. Explain frequency division multiplexing technique, with diagram.

Or

14. Compare and contrast PSK and DPSK. List advantages and disadvantages of both.

Turn over,

15. Explain serial and parallel data transmission in digital communication.

Or

16. List various noises present and its effects in data transmission. How noises can be minimized ?

17. Explain the use of Block codes. Describe its structure. Discuss its structure. Describe in detail the generation of Block codes.

Or

18. Give detailed explanation of any *three* transmission codes. Explain its uses.

19. Explain different parts of computer communication system.

Or

20. Discuss the different guided media in data communication. Compare all in terms of speed/data rate, distance covered, efficiency and cost.

(5 × 12 = 60 marks)

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