

F 3082

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, JANUARY 2007

Fifth Semester

Branches : Computer Science and Engineering/Information Technology

DATA COMMUNICATION (R, T)

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Write down the expression representing an AM wave and explain the terms involved.
2. How does PWM differ from PPM ?
3. What is FDM ? Mention two devices that use FDM.
4. What is channel capacity ? How is it related to bandwidth ?
5. How is the efficiency of digital transmission measured ?
6. What do you mean by isochronous transmission ?
7. What are the 3 basic methods of reverse error correction ?
8. Enumerate four important features of the EBCDIC coding system.
9. What are the features of the fibre optic cable that result in lossless transmission ?
10. Briefly explain some features of the GSM system.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. With a block diagram, explain the generation of PPM.
Or
12. Compare and contrast the different analog modulation schemes.
13. Explain frequency division multiplexing with suitable diagrams.
Or
14. State and prove the sampling theorem.

Turn over

15. Consider a half-duplex point-to-point line using a stop and wait scheme. (a) What is the effect on line utilization of increasing the message size so that fewer messages are required? (others remaining constant); (b) What is the effect on line utilization of increasing frame size?

Or

16. What are convolution codes? Name a few of them. Under what circumstances do they find use over block codes?
17. Generate Hamming code for the following characters using odd or even parity as indicated against each (a) "U" ASCII odd parity; (b) "?" ASCII parity even; (c) "M" ASCII even parity.

Or

18. What is Baudot code? Where is it used? Explain briefly.
19. What are multidrop lines? Explain the multidrop application of frequency division multiplexers.

Or

20. What is GSM technology? Explain GSM architecture in detail with supporting diagrams.

(5 × 12 = 60 marks)

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