G 2170

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Reg. No..............................

Name...............................

B.TECH. DEGREE EXAMINATION, APRIL 2010

Fifth Semester

Branch : Computer Science and Engineering/Information Technology

DATA COMMUNICATION (RT)

(Supplementary/Prior to 2007 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

1. Write down the mathematical representation of FM. Explain each term.

2. Compare and contrast PPM with PWM.

3. What is multiplexing ? Explain its role in communication.

4. State and explain Shannon's source coding theorem.

5. Differentiate synchronous and asynchronous data transmission methods.

6. Define circuit switching. Explain its merits and demerits.

7. What is a block code ? Explain with an example.

8. Write short notes on EBCDIC codes.

9. With block diagram list the components of a computer communication system.

10. With cross-sectional structure explain the operation of a coaxial cable.

$(10 \times 4 = 40$ marks$)$

Part B

11. With block diagram, explain the generation of AM wave. Sketch an AM wave for 50 % modulation for a given modulating signal of 5 V peak-to-peak.

Or

12. Describe the advantages of digital modulation schemes over analog modulation schemes. Explain the principle of Pulse Code Modulation.

13. Explain in detail the statistical time division multiplexing scheme with suitable sketches. Compare it with synchronous TDM scheme.

Or

14. With diagram, explain the method of differential phase shift keying. Compare its performance with PSK.

Turn over

15. Explain in detail serial and parallel data transmission schemes. List advantages and disadvantages of both.

Or

16. Explain the operation of packet switching scheme. List its advantages and disadvantages of over message switching.

17. With block diagram, explain the operation of a convolution encoder.

Or

18. What are barcodes ? Explain its scientific and commercial applications.

19. Explain the role of terminal handling equipment in computer communication. Describe point to point and multidrop lines.

Or

20. Briefly explain about the GSM services and architecture.

(5 × 12 = 60 marks)