

B.TECH. DEGREE EXAMINATION, MAY 2014**Sixth Semester**

Branch : Applied Electronics and Instrumentation

DATA COMMUNICATION (A)

(Old Scheme—Supplementary/Mercy Chance)

[Prior to 2010 admissions]

Time : Three Hours

Maximum : 100 Marks

Part A

*Answer all questions briefly.
Each question carries 4 marks.*

1. Discuss the need for modulation in digital data communication.
2. What is the relation between error correction and bit width of a code ? Explain.
3. What are the merits of packet switching when compared to circuit switching ?
4. Explain the principle of frequency division multiplexing.
5. Compare the priority mechanism of Token Ring LAN with that of Token bus LAN.
6. How wireless LAN works ? Explain.
7. How a connectionless service differs from a connection oriented service from TCP perspective ?
8. What are window adjustment in TCP ?
9. What is ISDN ? Explain with the help of a neat diagram.
10. What is NISDN ? What are its applications ?

(10 × 4 = 40 marks)

Part B

*Answer all questions.
Each full question carries 12 marks.*

11. With neat diagrams, describe different (three types) of transmission media used for data transmission. Compare their performances.

Or

12. (a) Enumerate the differences between optical fibers and conventional copper transmission lines. (4 marks)
- (b) Explain any one error detection code and error correction code. (8 marks)

Turn over



13. Explain the following with reference to packet switched data network :

- (i) Datagram.
- (ii) Virtual circuit.
- (iii) Logical channel.

(3 × 4 = 12 marks)

Or

14. With neat diagrams, clearly explain the principle of statistical TDM and synchronous TDM. Compare and contrast them.

15. What are the benefits of adopting ring topology for LAN ? With reference to token ring LAN discuss the following :—

- (i) Ring latency.
- (ii) Frame format.
- (iii) Priority mechanism.

(3 × 4 = 12 marks)

Or

16. List and describe any *four* IEEE LAN related standards.

17. Discuss the concept of layered architecture. Name the various layers and bring out their functions in the OSI standard.

Or

18. (a) Describe the sequence of steps of a TCP connection between two nodes. (6 marks)

(b) Explain how a router can be used as internetworking device between dissimilar subnetworks. (6 marks)

19. (a) Explain different reference points and their usage of ISDN. (6 marks)

(b) What are the services and applications of ISDN ? (6 marks)

Or

20. With neat diagrams, explain B-ISDN architecture and protocol.

[5 × 12 = 60 marks]

