E 277

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2003.

Fifth Semester

Information Technology

IF 352 — COMPUTER NETWORKS

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the need for modems?

2. What is meant by asymmetric DSL?

3. What is congestion?

4. What is the function of a bridge?

5. Give the format of an ATM cell.

6. Give two differences between connection-oriented and connection-less services.

7. Differentiate between a hub and a switch.

8. What does 10/100 Mbps Ethernet interface mean?

9. What is authentication?

10. Differentiate between a router and a gateway.

PART B — (5 × 16 = 80 marks)

11. (i) Explain the sliding window protocol with an example. (8)

(ii) Explain link state routing and discuss its advantages over distance vector routing. (8)

12. (a) Discuss the different transmission media used for data communication. (16)

Or

(b) (i) Explain circuit, message and packet switching and compare their features. (8)

(ii) Discuss the different signal encoding formats with examples. (8)

13. (a) (i) Discuss about the different ATM services. (8)

(ii) Explain the protocol architecture of ATM. (8)

Or

(b) (i) Briefly describe the frame relay protocol architecture and its frame format. (8)

(ii) Discuss about congestion control in frame relay. (8)

14. (a) Explain about Ethernet, token bus, token ring and FDDI in detail. (16)

Or

(b) (i) Explain about IEEE 802.11 protocol architecture for wireless LAN. (10)

(ii) Discuss about pure ALOHA and slotted ALOHA. (6)

15. (a) Discuss the various issues of transport layer in detail. (16)

Or

(b) (i) Explain the RSA public key encryption algorithm with an example. (8)

(ii) Write short notes on e-mail services of the application layer. (8)
