A 1320

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Seventh Semester

Information Technology

IF 451 — HIGH PERFORMANCE NETWORKS

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are CBR and VBR traffic? Give example for each.

2. What are the advantages of connection oriented service?

3. What are the important QOS parameters in networks?

4. Differentiate between flow control and congestion control.

5. What are the different techniques used for accessing at the physical layer of 802.11 WLAN?

6. Compare Piconet and scatternet.

7. What is the advantages of EDFA in optical networks?

8. What is the effect of dispersion in optical networks?

9. What are the main features of ATM networks?

10. What causes shadow fading and flat fading?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain working principles of TDM and statistical multiplexing in data networks. What are the advantages of statistical multiplexing? (12)

    (ii) Compare virtual circuit switching and datagram switching. (4)

Or

(b) Explain the Alternating Bit protocol, Go Back N protocol and selective repeat protocol with suitable diagrams. (16)

12. (a) (i) Explain AAL 2 protocol and AAL 5 protocol. (10)

    (ii) Explain the flow control mechanisms for ATM networks. (6)

Or

(b) (i) Draw the header format for ATM cell and explain the importance of each field. (6)

    (ii) What causes congestion in ATM network? How the congestion is controlled or prevented in ATM networks? (10)

13. (a) Explain the MAC Layer protocols and frame format used in 802.11 WLAN. (16)

Or

(b) Explain single slave and Master – slave communication in BLUE TOOTH. Draw the frame format and explain the significance of each field. (16)

14. (a) (i) Explain the concept of WDM in optical networks. (8)

    (ii) Explain optical Cross connects used in optical networks. (8)

Or

(b) Explain the operation of optical single hop LAN and multihop LAN. (16)

15. (a) (i) Explain the different traffic and service descriptors in ATM. (8)

    (ii) Explain the traffic policing mechanisms used in ATM networks. (8)

Or

(b) (i) Explain the physical Layer of ATM networks. (8)

    (ii) Explain Generic Flow Control mechanisms and in ATM networks. (8)