

E 8209

M.C.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Elective

CA 039 — NETWORK PROTOCOLS AND MANAGEMENT

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Is there a need for a sliding window in Frame Relay protocol? Explain.
2. What is the difference between in-band signaling and out-band signaling?
3. How does NNI differ from a UNI?
4. What is a reference point in ISDN?
5. Write the B-ISDN access methods.
6. What is the difference between passive and active security threats?
7. What is the duty of Mangler function in DES?
8. List the sub models of the network management functional model.
9. What is remote monitoring?
10. What are the functions provide by SNMP?

PART B — (5 × 16 = 80 marks)

11. (i) Describe the ATM service categories in detail. (8)
- (ii) Does the efficiency of ATM using AAL 3/4 depend on the size of the packet? Explain. (4)
- (iii) Does the performance of ATM depend strongly on the delay-bandwidth product of a network? Explain. (4)

12. (a) (i) Describe the frame mode call control alternatives in detail. (8)
(ii) Explain the approaches for congestion control in frame relay. (8)

Or

- (b) (i) Describe in detail the subscriber access channels and functional grouping in ISDN. (10)
(ii) Explain the types of services provided by BISDN in detail. (6)
13. (a) (i) Write RSA algorithm and perform encryption and decryption using the RSA algorithm for $p = 7$; $q = 11$; $e = 17$; and $M = 8$. (10)
(ii) Explain Elliptic curve cryptography. (6)

Or

- (b) (i) Compare and contrast public key and private key encryptions. (6)
(ii) Discuss in detail the Data Encryption Standard. (10)
14. (a) (i) Explain the functional requirements for network management. (8)
(ii) Explain any eight entities of SNMP MIB group. (8)

Or

- (b) (i) Describe the general architecture of SNMP in detail. (10)
(ii) Explain the structure of the trap PDU SNMP message. (6)
15. (a) (i) Describe the data structure of SNMPv2 PDUs. (8)
(ii) Write short notes on SNMP bilingual manager and proxy server. (8)

Or

- (b) (i) Describe the remote monitoring MIB groups and its functions. (10)
(ii) Explain the role of CIMP in the interoperability communication model. (6)