G 3534

M.C.A. DEGREE EXAMINATION, MAY/JUNE 2007.

Third Semester

MC 1701 — COMPUTER NETWORKS

(Regulation 2005)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate between connection oriented and connectionless services.

2. Define unicasting and multicasting.

3. List some of the key design issues in computer networks.

4. Define session routing.

5. State optimality principle.

6. What is the main difference between TCP and UDP?

7. List some of the services provided by the network layer.

8. Define a router and a bridge.

9. Give two reasons why networks might use an error correcting code instead of error detection and retransmission.

10. List some of the drawbacks of digital signature standard?

PART B — (5 × 16 = 80 marks)

11. (a) What is character stuffing? With an example illustrate the use of hamming code to correct burst errors.

                                        Or

    (b) (i) What are the reasons for using layered protocols?   (6)

        (ii) Explain in detail the OSI reference model and highlight the design issues of each layer.   (10)

12. (a) (i) Explain the binary exponential back off algorithm. (8)

(ii) Discuss in detail the frame format of Ethernet MAC sublayer protocol. (8)

Or

(b) Give brief description of the following : (7)

(i) LAN address

(ii) Address resolution protocol. (9)

13. (a) Explain the internetworking concepts and its implementation aspects.

Or

(b) Explain in detail : (8)

(i) Store and forward switching (8)

(ii) Cut through switches.

(8)

14. (a) (i) Describe the frame format of TCP.

(ii) Describe the Real Transport Protocol of UDP. (8)

Or

(b) Describe in detail any three congestion control algorithms.

(8)

15. (a) (i) Explain the importance and functioning of DNS. (8)

(ii) Compare any two cryptographic algorithms.

Or

(8)

(b) (i) Explain the version 2 and 3 of SNMP.

(ii) Discuss the need for data compression and explain any method. (