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Total Pages : 4

**3984/M**

**M-25/2051**

**COMPUTER NETWORKS**

Paper-BCA-223

Semester-IV

Time allowed : 3 Hours] [Maximum Marks : 75

**Note:** The candidates are required to attempt two questions each from section A and section B carrying 15 marks each and the entire Section C consisting of 10 short answer type questions.

**SECTION-A**

1. Discuss the OSI reference model with functioning of each layer. Also write merits and demerits of OSI model. 15
2. (a) Discuss various topologies used in a LAN? 8

(b) Explain different framing methods with examples. 7

3. (a) Differentiate between LAN, MAN and WAN. 8

(b) Explain the concepts of layers, interfaces and services. 7

4. Explain in detail elementary data link protocols. 15

**SECTION-B**

5. (a) Discuss the Leaky Bucket congestion control algorithm. 10

(b) Discuss the function of various fields in UDP header. 5

6. (a) Discuss connection establishment and connection release in TCP. 10

(b) Discuss design issues of transport layer. 5

7. What do you mean by network security? What methods are used for security of a network? Explain in detail. 15

8. (a) Explain the Shortest Path Routing Protocol with example. 10

(b) Briefly explain the concept of WWW. 5

### SECTION-C

9. (i) What is a network? Write applications of networks. 2

(ii) Compare OSI and TCP/IP reference models. 2

(iii) Discuss IP addressing. 2

(iv) Differentiate between TCP and UDP protocols. 2

(v) Differentiate between connection oriented and connection less service. 2

(vi) Compare static and dynamic algorithms. 2

(vii) Differentiate between substitution and transposition ciphers. 2

(viii) What is DNS? 1