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Printed Pages : 3

10202

MCA/M- 13
COMPUTER NETWORKS & DATA COMMUNICATION
Paper- MCA- 202

Time allowed : 3 hours] [*Maximum marks : 80*

Note : Attempt five questions in all. Question No. 1 is compulsory and carries 24 marks. In addition to compulsory question, attempt four more questions selecting one question from each unit. Each question of units I, II, III, IV is of 14 marks.

Compulsory Question

1. **Answer the following questions in brief:**

(a) List the functions of the network layer of OSI reference model.
(b) Describe the services for which you make use of the internet.
(c) Enumerate the applications of twisted pair cables and optical fibers.
(d) How errors are detected using checksum method?
(e) Which farming technique is used in Token bus and Token ring LAN standards?
(f) What is the purpose to binary exponential back-off algorithm?
(g) What is the advantage of hierarchical routing?
(h) How congestion is controlled using choke packets?

UNIT-I

2. **Distinguish between Local Area and Wide Area Networks on the basis of Transmission technologies, topologies and Design issues.**
3. **Name the protocols of different layers of TCP/IP model and give a brief description of their purpose. Also distinguish between connection-oriented and connectionless protocols and give examples of each type.**

UNIT-II

4. **Distinguish between :**

(a) Bit-rate and Baud-rate.
(b) Radio waves and micro waves.
(c) Manchester and differential – Manchester encoding.

5. **Identify the importance of the following in computer networks:**

(a) Modem.
(b) Switching and multiplexing.

UNIT-III

6. **Give one example each for the following kinds of protocols and describe, How media access is controlled in these protocols:**
   (a) Limited contention protocol.
   (b) Wireless LAN protocol.

7. **Compare the following:**

(a) **Token Ring and FDDI.**
(b) **GSM and CDMA.**

UNIT-IV

8. **How are routing decisions made in link state routing? Bring out a distinction between distance vector routing and link state routing.**
9. **Distinguish between:**
   (a) **Routing for mobile hosts and routing in ad-hoc networks.**
   (b) **Leaky bucket and token bucket congestion control techniques.**