

Roll No.

Total Pages : 03

OMCA/M-17 10007

**COMPUTER NETWORKS AND DATA
COMMUNICATION
MCA-202**

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *Five* questions in all. Q. No. 1 will be compulsory. In addition to compulsory question, select at least *one* question from each Unit.

(Compulsory Question)

1. (a) What are the factors on which data rate depends in data communications ?
- (b) Bring out the difference between router and gateways.
- (c) Discuss ADSL.
- (d) Explain the types of errors.
- (e) Explain the following :
 - (i) Bandwidth
 - (ii) Throughput
 - (iii) Latency.
- (f) Distinguish between radio waves and infrared waves.
- (g) Define the term Asynchronous TDM.
- (h) What is Link State Routing.

8×3=24

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Unit I

2. (a) Explain different categories of network and differentiate between them. 7
- (b) Explain the architecture of ATM with a diagram show how VP's and VC's are established. 7
3. (a) Differentiate TCP/IP and OSI reference model. 10
- (b) Write a note on Frame Relay. 4

Unit II

4. Discuss different forms of wireless transmission. 14
5. (a) What is time division multiplexing ? Explain, how statistical TDM overcomes the disadvantages of synchronous TDM ? 10
- (b) Discuss Differential Manchester Encoding. 4

Unit III

6. (a) Explain with the example, how encoding and decoding is done in CDMA techniques. 7
- (b) What is framing ? Explain bit and character stuffing with an example. 7

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7. (a) Discuss the design issues related with Data Link Layer. 7
(b) Write a note on any *one* of the following 7
(i) DQDB
(ii) GSM.

Unit IV

8. (a) Distinguish between broadcast network and point-to-point network. 7
(b) Explain open loop and closed loop congestion control. 7
9. Explain different routing algorithm in detail. 14

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