Roll No. ..... Total Pages : 3

OMCA/M-15 **10207**

COMPUTER NETWORKS AND DATA COMMUNICATION

Paper–MCA–202

Time Allowed : 3 Hours] [Maximum Marks : 80

Note : Attempt **five** questions in all, selecting at least one question from each Unit. Question No. 1 is compulsory.

Compulsory Question

1. Answer the following questions in brief : (8×3)

   (a) List any two features of ATM networks.

   (b) What is the significance of protocols in network architecture?

   (c) What will be the bit rate if baud rate is 10 bauds/second and number of bits in a baud is 4?

   (d) Which waves are suitable for long distance communication-radio waves or microwaves?

   (e) What happens when a collision occurs in Aloha?

   (f) Describe one framing technique in which frame delimiters will not appear in data.

   (g) Decribe one technique for broadcast routing.

   (h) What do you mean by Traffic shaping?

UNIT–I

2. (a) List any three uses of Computer Networks. (7)

   (b) Which design issues make a distinction between Local Area Networks? (7)

3. Describe the purpose of the following : (14)

   (a) Network layer and Data Link layer in OSI reference model.

   (b) TCP, IP and HTTP protocols in TCP/IP model.

UNIT–II

4. What are the various guided media used for data communication? Specify the application areas of each. (14)

5. Answer the following in berif : (14)

   (a) What is Time Division Multiplexing?

   (b) Sketch the Manchester and differential Manchester encoding for the data 100111001.

   (c) What do you mean by ADSL?

UNIT–III

6. What methods are used for detecting errors in Data communication? Explain using suitable examples. (14)

7. Describe, how the media access is controlled in the following protocols : (14)

   (a) WDMA

   (b) MACA.

UNIT–IV

8. How is Data routed using distance Vector routing? What is count-to-infinity problem? 14

9. (a) Describe the Dijkstra's shortest path routing method. (7)

   (b) How is congestion using choke packets? (7)