Roll No. ☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

MCA (Sem.–2) (2012 Batch)

DATA COMMUNICATION AND NETWORKS

Subject Code : MCA-204
Paper ID : [B0136]

Time : 3 Hrs.   Max. Marks :100

INSTRUCTION TO CANDIDATES :

1. **SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks each and students has to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY carrying TWENTY marks in all.**
3. Use of non-programmable **scientific calculator** is allowed.

SECTION-A

1 a) Discuss the concept of multiplexing and switching. Differentiate FDM
ing techniques.   10

   b) What is the role of layers, protocols, interfaces and services? Explain.
                                                                    10

2. Why different types of transmission media are used? Discuss the characteristics of fibre optics and coaxial cables.   20

SECTION-B

3. What is meant by framing and error control? Discuss the different framing techniques used by data link layer.   20

4. Explain the role of MAC layer and differentiate CSMA and collision free protocols.   20

SECTION-C

5. What are the major design issues of network layer? Discuss distance vector routing algorithm.   20

6. What is the cause of congestion in networks? Discuss the leaky bucket congestion control algorithm.   20

SECTION-D

7. How transport layer is used for connection management? What is the need of UDP protocol? Explain.   20

8. Write short notes on the following :

   a) Flow control

   b) Buffering   20

SECTION-E

9. **Answer briefly :**

   a) Define the term modulation and demodulation.

   b) How internetwork is established?

   c) Why radio transmission is employed?

   d) Compare the merits of 802.3 and 802.4 standards of IEEE.

tion is carried out?

   f) What is the significance of ping?

   g) Compare ftp and http protocols.

   h) How IPconflig helps in identification of nodes?

   i) Write a short note on www.

   j) What is meant by domain name system?   2×10=20