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Total No. of Questions : 09

MCA (2019) (Sem.–2)
DATA COMMUNICATION AND NETWORKS
Subject Code : MCA-204
M.Code : 72879

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. **SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students have to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**

SECTION-A

1. a) What is meant by multiplexing? Discuss the procedure for performing frequency modulation of a signal. 5

   b) Explain the effect of noise on fiber optics and twisted pair cable. 5

2. Discuss the following :

   a) OSI protocol stack 5

   b) Switching in Local Area Network 5

SECTION-B

3. How framing is carried out in data link layer? Discuss various protocol used in data link layer. 10

4. Write a short note on the following :

   a) MAC Protocols 5

   b) IEEE 802.4 standards 5

SECTION-C

5. What are different advantages of shortest path routing algorithm over multicast routing? Explain. 10

6. Explain the following by taking an example of each:

   a) RARP   4

   b) Network Troubleshooting   3

   c) Netstat   3

SECTION-D

7. a) Discuss different protocols of transport layer.   5

   b) Explain the phenomenon of establishing and releasing connection in transport layer.

       5

8. a) How FTP differs from HTTP? Explain.   5

   b) What is E mail? Explain the working of email in detail.   5

SECTION-E

9. **Write briefly :**   **(2 × 10 = 20)**

   a) Define Modulation.

   b) Services of Physical layer.

   c) Compare briefly ARP with RARP.

   d) Discuss the speed of transmission of coaxial cable.

   e) Describe the working satellite transmission.

   f) What is meant by Transmission impairment?

   g) Discuss the working of ALOHA briefly.

   h) Describe Token bucket algorithm.

   i) How many addresses of Class C are reserved for host?

   j) List two uses of network layer.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.