

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2015 & Onward) (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
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-D

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.