

**Roll No.**

**Total No. of Pages : 02**

**Total No. of Questions : 09**

**M.Sc. (Computer Science) (2015 & Onwards) (Sem.-2)**

# DATA COMMUNICATION & NETWORKS

**Subject Code : MSC-204**

**M.Code : 71448**

**Date of Examination : 19-12-22**

**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 has 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. Briefly explain different components of data communication and transmission impairments that can occur during data transfer.
2. What are different types of wired and wireless media present for data transmission?

## SECTION-B

3. Why flow control is required on data link layer? Which part of data link layer is responsible for it? Explain any two mechanisms used for flow control on data link layer.
4. Briefly explain IEEE 802.3, 802.4, 802.5 and state their differences.

## SECTION-C

5. What is routing and explain the procedure of updating routing table on a network? Differentiate between static and dynamic routing protocols with example.
6. What is network trouble shooting and explain commands namely ping, traceroute, netstat and their utility?

### SECTION-D

7. Explain the procedure of establishing and releasing connection at transport layer. Also explain how connection-oriented protocol is different from connectionless?
8. **Write a short note on :**
  - a) Flow control at transport layer
  - b) HTTP vs. HTTPS.

### SECTION-E

9.
  - a) Define TCP/IP protocol stack.
  - b) Define modulation and its significance.
  - c) Differentiate bit rate and baud rate.
  - d) Define packet switching.
  - e) Define Cyclic Redundancy Check (CRC).
  - f) Differentiate Broadcast and Multicast network.
  - g) What is ARP used for?
  - h) What is DNS look up table?
  - i) Define Buffering.
  - j) Leaky bucket algorithm.

**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.**