Roll No. | | | | | | | | | | | | **Total No. of Pages: 02**

Total No. of Questions: 07

Bachelor of Science (Computer Science)(Sem. – 4)

DATA COMMUNICATION & COMPUTER NETWORKS

Subject Code: BCS-406

M Code: 72322

Date of Examination : 02-01-2023

Time: 3 Hrs. **Max. Marks: 60**

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. Write briefly:

   a) What is difference between synchronous and asynchronous modes of transmission?

   b) Explain the terms multiplexing and de-multiplexing.

   c) What are advantages and limitations of star and ring topology?

   d) List the applications of coaxial cables.

   e) List various protocols used by different layers of TCP/IP model.

   f) What is framing? What is its benefit?

   g) Differentiate CSMA-CD and CSMA-CA.

   h) What is IEEE 802.4 standard in computer networks?

   i) List various network layer design issues.

   j) What is router? On which layers do switch and router works?

SECTION-B

2. a) What are the benefits of computer networks?

   b) Compare and contrast LAN, MAN and WAN.

3. Explain the phenomena of Infrared, Satellite and Bluetooth transmission. What are their applications?

4. What is switching in computer networks? Compare circuit switching, packet switching and message switching.

5. Define flow control. Explain the working of stop - wait and sliding window protocols.

6. a) What is routing? Differentiate betweenadaptive and non-adaptive routing algorithms.

   b) Explain the working of link state routing.

7. Define congestion. Explain various open loop and closed loop congestion control policies in detail.

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