

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (AI&ML) (Sem.-6)

COMPUTER NETWORKS

Subject Code :BTCS-504-18

M.Code :93665

Date of Examination :21-11-2025

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 FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answerbriefly :

- a) Define Topology.
- b) What is peer to peer networking?
- c) What is spread spectrum?
- d) Define checksum.
- e) What is error control?
- f) What is the key function of a router in a network?
- g) Define unicasting.
- h) What is the size of IP address, Port address and MAC address?
- i) What is the purpose of an IP address in a computer network?
- j) Define Telnet.

SECTION-B

2. Describe the process of data encapsulation in the OSI model and how it affects data transmission between devices.
3. Explain about the stop and wait and Go back -N ARQ protocol used at data link layer.
4. Discuss the advantages and disadvantages of using IPv6 over IPv4 in the context of Internet addressing and network expansion.
5. Explain the concept of Quality of Service (QoS) in networking and how it ensures efficient data transmission in real-time applications.
6. What is DNS protocol? How does DNS protocol work?

SECTION-C

7. Discuss the various network topologies, such as bus, star and mesh and provide examples of situations where each topology is most suitable.
8. In detail, describe the role of ARP (Address Resolution Protocol) and RARP in a local area network, including its purpose and how it operates.
9. **Write a short note on :**
 - a) CSMA/CD
 - b) SMTP

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.