

Integ. MSc CSF Semester-2 (NEP) Examination

DSC-C-ICSF-121 (T)

Fundamental of Computer Network

Time : 2-00 Hours]

April-2024

[Max. Marks : 50

Instructions: Illustrate your answers with neat diagrams wherever necessary.**Que 1 Write the following**

- (i) Describe two types of routing algorithms used in network layer protocols. (5 Marks)
- (ii) Briefly describe the comparison between different types of networks. (5 Marks)

OR

- (i) Compare and contrast the Simple Mail Transfer Protocol (SMTP) and the Post Office Protocol (POP3) in the context of email communication. (5 Marks)
- (ii) Explain the concept of Quality of Service (QoS) in networks. (5 Marks)

Que 2 Write the following

- (i) Compare and contrast IPv4 and IPv6 addressing schemes (5 Marks)
- (ii) What is the difference between a client and a server in the application layer? (5 Marks)

OR

- (i) Explain the concept of Data Link Layer switching and its benefits. (5 Marks)
- (ii) Discuss the advantages and disadvantages of wireless local area networks (WLANs). (5 Marks)

Que 3 Write the following

- (i) Define BIOS. Also explain the role of ROM in BIOS. (5 Marks)
- (ii) Briefly describe the World Wide Web (WWW) architecture, including the roles of web servers, web browsers, and URLs. (5 Marks)

OR

- (i) Explain how TCP ensures reliable data transfer. (5 Marks)
- (ii) Explain the difference between a local area network (LAN) and a wide area network (WAN). Give some examples of each type of network. (5 Marks)

Que 4 Write the following

- (i) Briefly explain the working principle of CSMA/CD (Carrier Sense Multiple Access with Collision Detection) (5 Marks)
- (ii) Describe two methods for error detection and correction used in the data link layer. (5 Marks)

OR

- (i) Differentiate between connection-oriented and connectionless transport protocols. (5 Marks)
- (ii) What are the different types of network topologies (e.g., bus, star, mesh), and what are the advantages and disadvantages of each? (5 Marks)

Que 5 Attempt any ten out of twelve**(10
Marks)**

- (i) What is the difference between a network and the internet?
- (ii) Why is network standardization important? 10. What is a common network standard organization?
- (iii) List two common network types based on their size.
- (iv) List two common network applications.
- (v) What type of network application allows you to browse websites?
- (vi) Briefly describe the function of a router.
- (vii) Give an example of network management software.
- (viii) Differentiate between Bus and Star network topologies.
- (ix) Briefly describe a Mesh network topology. Which layer in the OSI model is responsible for data encryption?
- (x) Briefly explain the role of the Domain Name System (DNS).
- (xi) What is the protocol used for transferring files over a network?
- (xii) Briefly describe the function of the Transport layer in the TCP/IP model.

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