

Unit 1: An Introduction to Networks , Network Topologies and Types .

Short Questions (1 to 4 Marks)

- 1 .Define Analog and Digital Signals.
2. Explain the significance of hardware and software protocol.
3. Concept of Client and Server.
4. Explain Token Passing mechanism in Ring Topology.
5. Explain Data Communication Model.
6. What is Network Topology . Give the list of Network Topology.
7. Define Network Protocol.

Long Questions (5 to 10 Marks)

1. Explain Different Types Of Server.
2. Explain Types Of Network (Peer-to-peer , Client-server , Hybrid) OR Explain Network model in brief with their advantages and disadvantages.
3. Discuss need , Uses and Advantages of Network.
4. Explain Wireless ad-hoc network and wireless sensor network.
5. Explain Topology And give brief description of all types of topology with their merits and demerits.
 1. Bus.
 2. Star.
 3. Ring.
 4. Star bus.
 5. Star Ring.
 6. Physical Mesh
- 6 . Define Protocol. Explain different types of network protocol.
7. Explain Star and Bus topology compare their advantage and disadvantage.
8. discuss hardware and software resource sharing.

Unit 2: The OSI Model and Network Hardware.

Short Questions (1 to 4 Marks)

1. Define Terms: Bit rate , . Baud , Bandwidth , Nyquist bit rate.
2. Differentiate guided media and unguided media.
3. Why is there a twist in twisted pair cable? Justify.

Long Questions (5 to 10 Marks)

1. Explain All OSI Layers. (Physical , Data link , Transport , Network , Session , Presentation, Application)
2. Explain Different types of cables used for computer network in details with example.
3. Compare Microwave , Satellite and Infrared transmission system, based on following factors.
 - a. Installation.
 - b. Bandwidth Capacity
 - c. Attenuation.
4. Compare Twisted Pair , Coaxial Cable and Fiber Optic Cable Based on the Following Factors.
 - a. Installation.
 - b. Bandwidth Capacity
 - c. Attenuation.
 - d. Cost.
5. Explain the method of communication using Satellites.
6. Note on Satellite Communication.

Unit 3: Network S/W (Operating System).

Short Questions (1 to 4 Marks)

1. Explain NTFS system of Windows NT operating System.
2. What is Network operating system?
3. Briefly explain client operating system.

Long Questions (5 to 10 Marks)

1. Compare the features of client operating system and server operating system.
2. What are the features of network software?
3. Short note on server operating system.
4. Explain about different network operating system.

Unit 4: Network Security : Introductory Concepts and Terminologies.

Short Questions (1 to 4 Marks)

1. What is cipher text?
2. What is purpose of Public and Private Key ?
3. Define Block cipher.

Long Questions (5 to 10 Marks)

1. Write a note on Cryptography.
2. Write a note on Firewall.
3. Define the term cryptography. Write a note on Asymmetric Cryptography.
4. What is Firewall ? What are the functions of firewall ? Explain Packet Filter and Proxy firewall in details.
5. Write short note on Public Key Infrastructure.
6. Explain the importance of Digital Certificates and Digital Signatures.
7. What is Firewall ? How it works / What are the different types of firewall ?
8. Write short note on Digital Signature.

Unit 5 : Basics of TCP/IP.

Short Questions (1 to 4 Marks)

1. What is segment ?
2. What is IP address ?

Long Questions (5 to 10 Marks)

1. Write a note on UDP.
2. What is segment ? Explain each field of TCP segments.
3. Write a note on TCP operation.
4. Explain IP address and IP subnet.
5. Write a short note on Connection less protocol with its applications.
6. Describe UDP and TCP.
7. Differentiate between IP address and MAC address.
8. Explain IP configuration.