

INU

Pg # 1

Name ⇒ Farhan Ali

ID ⇒ 12761

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Exam ⇒ Mid

Submitted to
sir Zain shankat.

(Q1)

(A) Name different network topologies
And cite an advantage of each type.

(Ans) Network topology refers to the arrangement of computers connected in a network through some physical medium such as cable, optical fiber etc.

Types of network topologies are as follows:

(1) Hierarchical Topology:-

The hierarchical topology is also known as tree topology, which is divided into different levels connected with the help of twisted pair, coaxial cable or fiber optics.

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★ Advantages of hierarchical topology are.

⇒ The hierarchical is generally supported by most hardware and software.

⇒ In the hierarchical topology data is received by all the nodes efficiently because of point to point link.

(2) Linear Bus Topology :-

In the linear bus topology, all the nodes are connected to the single backbone or bus with some medium such as twisted pair, coaxial cable etc.

* Advantages of linear bus topology are.

- ⇒ The linear bus topology usually less cabling.
- ⇒ The linear bus topology is relatively simple to configure and install
- ⇒ In the linear bus topology, the failure of one computer does not affect the other computers in the network

(3) Star Topology:

In the star topology, all the nodes are connected to a common device known as hub. Nodes are connected with help of twisted pair, coaxial cable or optical fibres.

⇒ Advantages of star topology are

→ The topology allow easy error detection and correction

→ In the star topology, the failure of one computer does not effect the other computer in the network.

→ Star topology is easy to install.

(4) Ring Topology :- Pg # 6

In the ring topology the nodes are connected in the form of ring with the help of twisted pair cable.

* Advantages of ring topology

→ Each node has an equal access to other nodes in the network.

→ Ring topology is easy to configure and install.

→ Addition of new nodes not degrade the performance of the network.

(5) Mesh Topology:-

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In mesh topology each computer is connected to every other computer in point to point mode.

*) Advantages of mesh topology are.

→ Each connection can carry its own data load.

→ It is robust

→ A fault is diagnosed easily.

→ Provides security and privacy.

(Q1) What is the difference
(b) between a physical address,
logical address and a port
address.

(Ans) Difference between a physical
address and logical address.

→ The physical address is the
local address of a node, it
is used by the data link
layer to deliver data from
one node to another within
the same network.

→ The logical address defines
the sender and receiver at
the network layer and is
used to deliver messages.

The port address (service-point)
identifies the application process
on the station.

(Q1) How OSI and ISO are related to each other?

(Ans) ISO stands for international standard organization which is multinational organization that tries to standardize network communication protocols at the international level.

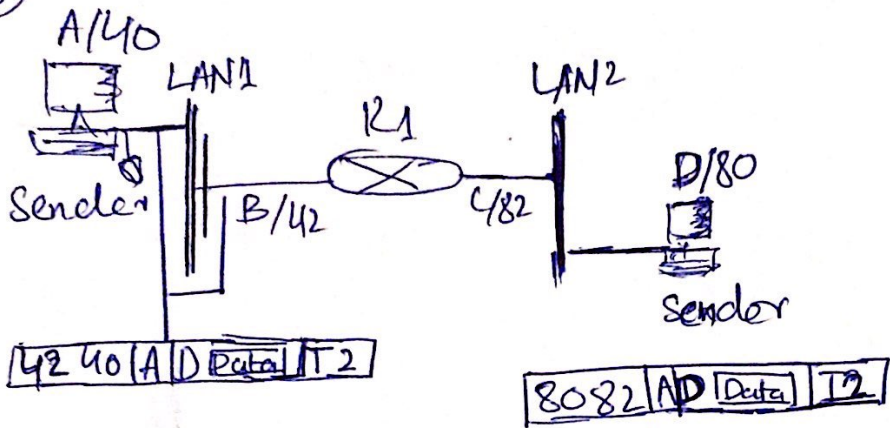
OSI (Open system Interconnection) is a model that ISO put together as a networking communication standard.

Q2

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(a) For big below a computer ---
--- layer for each hope interface

(Ans)



*Assume That the communication is between a process running at computer A with port address i and a process running with computer D with port j.

