



Name of the Bundle	Proficient Bundle V1	Subject	Networking V1
Topic	Networking Topologies	Last updated on	07 July 2025

1. What is a network topology?

- A. The speed of the internet
- B. The layout or structure of a network
- C. The number of devices in a network
- D. The protocol used for communication

Answer: B. The layout or structure of a network

Explanation: A network topology refers to how nodes (devices) and connections (links) are arranged.

2. Which of the following is not a type of network topology?

- A. Bus
- B. Ring
- C. Star
- D. Layer

Answer: D. Layer

Explanation: Bus, Ring, and Star are topologies; Layer is part of the OSI model, not a topology.



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3. What is the main communication pathway called in a bus topology?

- A. Ring
- B. Hub
- C. Bus
- D. Mesh

Answer: C. Bus

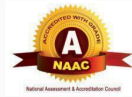
Explanation: In bus topology, all devices share a single main communication line, known as the bus.

4. How are devices connected to the main communication line in a bus topology?

- A. Through switches
- B. Using drop lines or taps
- C. Using routers
- D. Wirelessly

Answer: B. Using drop lines or taps

Explanation: Devices are linked to the main bus through drop lines or taps.



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5. What happens if the main cable (bus) fails in a bus topology?

- A. Only one device fails
- B. Network performance improves
- C. The entire network fails
- D. Devices continue to work independently

Answer: C. The entire network fails

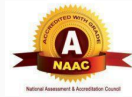
Explanation: In bus topology, the entire network depends on a single backbone. If it fails, communication stops.

6. What type of transmission is used in a bus topology?

- A. Unicast
- B. Broadcast
- C. Multicast
- D. Anycast

Answer: B. Broadcast

Explanation: Data sent over the bus is broadcasted to all devices, but only the intended recipient accepts it.



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7. Which device is commonly used at both ends of a bus to prevent signal reflection?

- A. Router
- B. Switch
- C. Repeater
- D. Terminator

Answer: D. Terminator

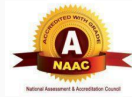
Explanation: Terminators are used at both ends of the bus to absorb signals and prevent signal bounce.

8. Bus topology is best suited for:

- A. Large enterprise networks
- B. Wireless networks
- C. Small, temporary networks
- D. Cloud-based systems

Answer: C. Small, temporary networks

Explanation: Due to its simplicity and low cost, bus topology is ideal for small or test networks.



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9. What type of cable is often used in traditional bus topologies?

- A. Twisted pair
- B. Fiber optic
- C. Coaxial cable
- D. HDMI cable

Answer: C. Coaxial cable

Explanation: Coaxial cables were commonly used in early bus topology networks due to their signal-carrying capabilities.

10. In which topology does data travel in one direction around a closed loop?

- A. Bus
- B. Ring
- C. Star
- D. Tree

Answer: B. Ring

Explanation: In a Ring topology, data moves in a circular path, usually in one direction.



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11. How does data typically travel in a ring topology?

- A. In both directions simultaneously
- B. Randomly
- C. In a straight line
- D. In one direction (unidirectional)

Answer: D. In one direction (unidirectional)

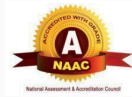
Explanation: Most ring topologies transmit data in a unidirectional manner, usually clockwise or counterclockwise.

12. What happens if a single device or connection fails in a standard ring topology (without redundancy)?

- A. Network continues to operate normally
- B. Only one device is affected
- C. Entire network can fail
- D. The failed device becomes a hub

Answer: C. Entire network can fail

Explanation: A break in the ring can disrupt the entire network, unless there's a dual ring or backup path.



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13. Which type of transmission is used in basic ring topology?

- A. Broadcast
- B. Unicast
- C. Unidirectional
- D. Multicast

Answer: C. Unidirectional

Explanation: Data typically travels in one direction only, moving from one device to the next in the ring.

14. What device is commonly used to manage data transmission in a ring topology?

- A. Switch
- B. Hub
- C. Token
- D. Bridge

Answer: C. Token

Explanation: Many ring networks use token passing, where a token circulates and only the device holding it can transmit.



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15. In a star topology, all devices are connected to:

- A. A single shared cable
- B. A ring of devices
- C. A central node (hub or switch)
- D. Each other directly

Answer: C. A central node (hub or switch)

Explanation: In star topology, every device connects to a central device like a hub or switch, which manages communication.

16. Which of the following best describes star topology?

- A. All devices are connected in a loop
- B. All devices are connected in a line
- C. All devices are connected to a central point
- D. All devices are wirelessly linked

Answer: C. All devices are connected to a central point

Explanation: In star topology, the structure is like a hub-and-spoke model with all devices connecting to a central node.



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17. What happens if one device fails in a star topology?

- A. The entire network fails
- B. Only that device is affected
- C. The central hub fails
- D. Data is sent wirelessly

Answer: B. Only that device is affected

Explanation: In star topology, failure of a single device does not affect the rest of the network, unless the central hub fails.

18. What happens if the central device (hub or switch) fails in star topology?

- A. All devices continue working
- B. Only the central device is affected
- C. Entire network stops working
- D. Data is rerouted through other devices

Answer: C. Entire network stops working

Explanation: If the central device fails, communication between all devices breaks down.



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19. Which of the following is a major advantage of star topology?

- A. Minimal cabling
- B. Easy to isolate faults and troubleshoot
- C. Cheapest to install
- D. Doesn't need a switch or hub

Answer: B. Easy to isolate faults and troubleshoot

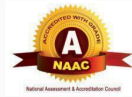
Explanation: Because each device is individually connected, faults can be easily identified and fixed.

20. Which device is most commonly used at the center of a modern star topology?

- A. Router
- B. Modem
- C. Switch
- D. Bridge

Answer: C. Switch

Explanation: In modern networks, a switch is typically used at the center for faster and more efficient data forwarding.



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21. Star topology is considered:

- A. Slow and outdated
- B. Highly secure and scalable
- C. Complex and inefficient
- D. Only for wireless networks

Answer: B. Highly secure and scalable

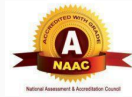
Explanation: Star topology is efficient, scalable, and relatively secure, making it the most popular topology today.

22. What type of topology is most widely used in home and office networks today?

- A. Bus
- B. Ring
- C. Mesh
- D. Star

Answer: D. Star

Explanation: Star topology is the most commonly used topology today due to its simplicity and reliability.



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23. In a mesh topology, how are devices connected?

- A. Through a single cable
- B. Through a central hub
- C. Each device connects directly to every other device
- D. In a circular loop

Answer: C. Each device connects directly to every other device

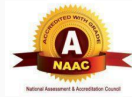
Explanation: In a mesh topology, every device is connected to every other device via a dedicated link.

24. What are the individual connections between devices in a mesh topology called?

- A. Hops
- B. Nodes
- C. Links
- D. Loops

Answer: C. Links

Explanation: The dedicated channels between devices are called links.



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25. What is the biggest advantage of mesh topology?

- A. Low cost
- B. Uses fewer cables
- C. High reliability and redundancy
- D. Simple to install

Answer: C. High reliability and redundancy

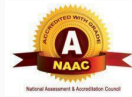
Explanation: Mesh topology offers multiple paths, so if one link fails, data can be sent through alternate routes.

26. Mesh topology is most commonly used in which type of network?

- A. PAN
- B. LAN
- C. MAN
- D. WAN

Answer: D. WAN (Wide Area Network)

Explanation: Due to its fault tolerance, mesh topology is ideal for critical WAN environments where uptime is essential.



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27. What happens if one link fails in a mesh network?

- A. Entire network shuts down
- B. Only the connected devices are affected
- C. Data finds another path to the destination
- D. Network becomes wireless

Answer: C. Data finds another path to the destination

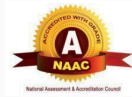
Explanation: Mesh networks offer alternative routes, ensuring network continuity even when one link fails.

28. Which topology provides the best fault tolerance among the options below?

- A. Star
- B. Ring
- C. Bus
- D. Mesh

Answer: D. Mesh

Explanation: Because of its multiple redundant paths, mesh topology provides superior fault tolerance.



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29. Tree topology is a combination of which two topologies?

- A. Ring and Bus
- B. Mesh and Star
- C. Star and Bus
- D. Bus and Mesh

Answer: C. Star and Bus

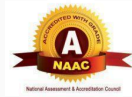
Explanation: Tree topology combines star topology groups connected via a main bus line.

30. Tree topology is most commonly used in:

- A. Personal home networks
- B. Small coffee shops
- C. Large organizations or universities
- D. Bluetooth networks

Answer: C. Large organizations or universities

Explanation: Tree topology is ideal for large, structured networks, such as in campuses or corporate offices.



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31. What acts as the central backbone in a tree topology?

- A. Switch
- B. Ring cable
- C. Main bus line
- D. Token server

Answer: C. Main bus line

Explanation: The bus in tree topology serves as the central backbone connecting multiple star-configured nodes.

32. What is required at each star group in tree topology to manage traffic?

- A. Modem
- B. Hub or switch
- C. Repeater
- D. Firewall

Answer: B. Hub or switch

Explanation: Each star group in a tree topology uses a hub or switch to connect devices locally.



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33. What is a hybrid topology?

- A. A topology with wireless-only connections
- B. A topology that combines two or more different topologies
- C. A topology that uses only mesh connections
- D. A topology that works only for LANs

Answer: B. A topology that combines two or more different topologies

Explanation: Hybrid topology is formed by merging different types of topologies (e.g., star + bus, star + ring).

34. Why is hybrid topology considered flexible?

- A. Because it uses coaxial cables
- B. It supports only ring structures
- C. It allows customization based on network needs
- D. It only works on wireless networks

Answer: C. It allows customization based on network needs

Explanation: Hybrid topology can be custom-built for specific needs, making it highly flexible.



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35. What is the biggest advantage of a hybrid topology?

- A. Cheapest to install
- B. Simple to design
- C. Combines strengths of different topologies
- D. Needs fewer devices

Answer: C. Combines strengths of different topologies

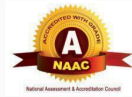
Explanation: It leverages the advantages of multiple topologies to create a powerful and adaptable network.

36. Which of the following is true about hybrid topology?

- A. Not suitable for large networks
- B. Difficult to scale
- C. Easily modified and expanded
- D. Cannot use routers or switches

Answer: C. Easily modified and expanded

Explanation: Hybrid topology is known for being highly scalable, especially in enterprise networks.



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37. A disadvantage of hybrid topology is:

- A. Not secure
- B. Not scalable
- C. Complex to design and expensive
- D. Doesn't support wired networks

Answer: C. Complex to design and expensive

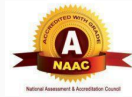
Explanation: Designing a hybrid network is technically complex and may require higher costs due to its mixed structure.

38. Hybrid topologies are ideal for:

- A. Small homes
- B. Simple two-device connections
- C. Large organizations with complex needs
- D. Only wireless setups

Answer: C. Large organizations with complex needs

Explanation: Hybrid topology suits corporate networks, universities, and ISPs that demand flexibility and high performance.



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39. Which topology connects each device to every other device?

- A. Mesh
- B. Ring
- C. Star
- D. Bus

Answer: A. Mesh

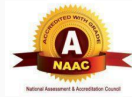
Explanation: A Mesh topology connects every device to every other device, offering high redundancy.

40. Which topology is best suited for fault tolerance and redundancy?

- A. Bus
- B. Ring
- C. Mesh
- D. Star

Answer: C. Mesh

Explanation: Mesh topology offers multiple paths, so if one link fails, data can take another route.



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41. In a tree topology, the structure resembles:

- A. A circle
- B. A star and ring combined
- C. A hierarchical tree with branches
- D. A mesh of wires

Answer: C. A hierarchical tree with branches

Explanation: A tree topology is a hybrid that resembles a hierarchical branching structure.