**Section: Networking**

1. When a source IP is not able to send packets to host or router, how does the network layer acts as an error reporting tool to source IP?
2. The router acts as error detecting tool in network layer.
3. When packets fails to reach the host, the datagram track the failed events and log to the network admin.
4. Internet Control Message Protocol is used as error-reporting protocol which help in error detection.
5. The IP Address of the source system logs the error report.
6. In the Data Link Layer, two hosts run at different speeds and try to transmit the data packet. How can the data packet transmit without error?
7. Stop and wait mechanisms can be used to acknowledge the transmit from the receiver.
8. Sliding window mechanisms can be used where both sender and receiver acknowledge the transmit.
9. ARQ-S mechanisms can be used where only sender acknowledge the transmit.
10. ARQ-R mechanisms can be used where only receiver acknowledge the transmit.
11. A network routing algorithm needs to be developed for a network to ensure speedy and reliable delivery. You need to ensure that the routers will forward the packets along the fastest path based on the current network traffic and the routers are expected to share this information with their neighbours as and when the routing table changes. What kind of routing algorithms should be employed in that case?
12. Adaptive routing algorithm such as Isolation Algorithm.
13. Non-adaptive routing algorithms such as Flooding.
14. Adaptive routing algorithm such as distance vector routing.
15. Non-adaptive routing algorithms such as random Walks.
16. A user is facing issues while accessing Internet Explorer. All other applications are working for her. While accessing any website, an error message is displayed “page cannot be displayed”. Which method should be used for troubleshooting the issue?
17. Bottom-up
18. Top-down
19. Bottom-up
20. Divide and Conquer
21. A company branch is located in two different geographical locations and with different networks. How can communication take place with routers?
22. Virtual data link can be built in between the network for communication.
23. The tunnelling method can be used by two or more networks so they can communicate with each other, by passing intermediate networking.
24. Routers can be deployed between each network and a dedicated link for the communications.
25. Multiple links can be deployed between the networks.

**Section: Networking:**

1. A company is using a network in which each machine is connected to another machine. When one machine fails, the remaining machines also get affected. Which alternative topology can be implemented to solve such issues? Star, ring, mesh, **dual ring topology**.

|  |  |
| --- | --- |
| 1 Network layer | A Frame |
| 2 Data Link Layer | B Packet |
| 3 Physical Layer | C Symbol |
| 4 Transport Layer | D Datagram |

**1b 2a 3c 4d**

1a 2c 3d 4b

1a 2d 3b 4c

1b 2c 3a 4d

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4. **Adaptive routing algorithm such as distance vector routing algorithm**
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Bottom-up

Top-down

Bottom-up

**Divide and conquer**

1. An online food agency service processes a large number of food orders every minute. They want to store their customer data and transaction details in physical form. Which transmission media can help them store large information quickly?

Twisted pair cable can help in fast data transfer

Magnetic media helps to store the huge data quickly

Coaxial cable will help to prevent large data leakage during data transfer

**Fiber optics use light to store data which help in fast data storage.**