**DCN Paper Preparation For Mid Term Exam**

**Media Access Control**

There are two types of networks, public and private networks and two means of identification, an IP (Internet Protocol) address and a MAC (Media Access Control) address.27-Nov-2023

***What protocol does ping use?****ICMP*

Ping uses the **Internet Control Message Protocol (ICMP)**, which is part of the Internet protocol suite.

**Here's how it works:**

* When you use the ping command, your device sends an **ICMP Echo Request** message to a target IP address.
* The target device, if reachable, responds with an **ICMP Echo Reply**.
* This exchange helps determine if the target is online and how long it takes for messages to travel back and forth (round-trip time).

**Key Points:**

* **ICMP is not a transport protocol** like TCP or UDP; it's used for network diagnostics and error reporting.
* Ping helps detect network connectivity issues, packet loss, and latency.

In short, ping uses ICMP to test the reachability and response time of a networked device.

The **ping** command is used to:

1. **Check network connectivity** – It helps verify if a device (like a server, router, or website) is reachable over a network.
2. **Measure response time** – It shows how long it takes for a message to travel to the target and back (round-trip time), helping assess network speed.
3. **Detect packet loss** – It shows if any data packets are lost during transmission, which can indicate network issues.
4. **Troubleshoot network problems** – It helps identify where a connection is failing or if there is high latency.

Is ping HTTP or TCP?

ping is the primary TCP/IP command used to troubleshoot connectivity, reachability, and name resolution.01-Nov-2024