Part A: Micro Project Proposal

Title: ICMP Protocol

1.0 Introduction:

The Internet Control Message Protocol (ICMP) is an integral part of the Internet Protocol Suite. It is primarily used for diagnostic and error reporting purposes in IP networks. ICMP messages are encapsulated within IP packets and are typically generated by network devices, such as routers or hosts, to communicate network-related information.

2.0 Aim of the Topic:

To study to working the working of ICMP Protocol

3.0 Course Outcome:
a) Understanding ICMP basics.
b) Error and control messages.
c) Troubleshoot problems using ICMP.
d) Explore topics like ICMP extension messages.

4.0 Proposed Methodology:

ICMP provides various functionalities, including:

1. Echo Request and Reply: ICMP Echo Request (commonly known as a "ping") is used to test the reachability of a network device by sending an ICMP Echo Request message and expecting an ICMP Echo Reply in return.

2. Error Reporting: ICMP is responsible for reporting errors encountered during IP packet processing. For example, if a router encounters an issue while forwarding an IP packet, it can send an ICMP error message back to the source host.

3. Network Path and Reachability Information: ICMP messages like Time Exceeded and Destination Unreachable provide valuable information about network path issues, such as packet fragmentation problems or unreachable destinations.

4. Network Address Mask Discovery: ICMP provides a mechanism for hosts to discover the subnet mask associated with a network interface.
ICMP plays a crucial role in network troubleshooting, network health monitoring, and network management. It enables network administrators to identify and resolve network issues efficiently.
Understanding ICMP is essential for network professionals to diagnose and address network problems effectively.

5.0 Resource Required:

Sr. No	Name of Resource / Material	Specification	Qty
1	Computer System	16 GB Ram, Windows 11 OS	1
2	Websites	Geeks of Geeks, W3Schools	-
3	Textbook/Manual	Computer Networks "By Andrew S. Tanenbaum and David J. Wetherall"	-

6.0 Action Plan:

Sr. No.	Details of Activity	Planned Start Date	Planned finish Date	Name of team Members
1	Data Collection			Atharva Yogesh Bhatt
2	Analysis			Mohit Hemant Badgujar
3	Design			Samarthya Ravindra Deore
4	Development			Dhruv Harish Makhija
5	Report Writing			Atharva Yogesh Bhatt
6	Presentation			All Members