

## WM's Assignments 6

★ Aim:-

write a program to simulate wormhole/attack in mobile and adhoc network.

★ Theory:-

- A mobile Adhoc Network (MANET) comprises of mobile nodes that move independently in an open environment. Communication between the nodes in an MANET is enabled with the aid of intermediate routers. The nature of MANET such as open medium, dynamic network topology, lack of centralized monitoring and lack of clear defense mechanism makes it vulnerable to several routing attacks.
- Wormhole tunnel is generated by two malicious nodes which indicate together like one hop neighbour which cause the routing of packets to pass through them as neighbour nodes. Once wormhole establishes the tunnel, remotely they can send packets, reply drop and selectively ahead them.
- Wormhole attack is considered as one of the important grievous attacks on MANET.
- It cannot be detected easily because in these types of attack two malicious or



attacker nodes combine together and form tunnels between them.

- In wormhole attack the malicious node records the route request CRRREQ packet at one point in the network and sends it to another colluding attackers at another point in the n/w.

★ conclusion :-

Thus we have studied and simulate wormhole blackhole attack in mobile ~~ad~~ adhoc network.

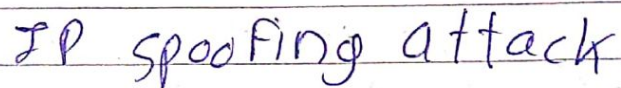
FAQ's :-

- 1) Explain briefly different type of n/w layer attacks with diagram?

→ • IP Spoofing attack :-

This technique is used from the attacker to gain unauthorized access to the ~~same~~ server. The attacker will send msg to the server not with his own IP, but with trusted IP address. In this way server will not understand that it is getting traffic from an attacker.





very hard to detect. even when all the communication on the wireless n/w provide authenticity and confidentiality, a wormhole attack can happen.





Q2) Explain routing attacks?

→ 1) Denial of Service (DOS):

The attacker uses a service of request to simplify how the routers deal with message request.

2) package mistreating Attack (PMA):

It injects packets with malicious codes designed to confuse and disrupt the router and networks.

Q3) How the black hole attacks are detected / avoided / Find out in AODV?

→ AODV is a reactive routing protocol that has no techniques to select and neutralize the black hole in the network.

- We enhanced AODV by integrating a new lightweight techniques that uses times and waiting order to detect and isolate single and cooperate blackhole attacks.