MOBILE COMPUTING

UNIT IV

2-MARKS

1. What is Wireless Ad-hoc network?

A wireless ad hoc network (WANET) is a decentralized type of wireless network. The network is ad hoc because it does not rely on a pre existing infrastructure, such as routers in wired networks or access points in managed (infrastructure) wireless networks.

2. Why routing is complex task in ad-hoc network?

1. Finding global identifier of node is difficult.
2. Efficiency of traditional protocol is very less.
3. Dynamic nature of network topology.
4. Different kind of devices.

3. What is MANET?

Stands for "Mobile Ad Hoc Network." A MANET is a type of ad hoc network that can change locations and configure itself on the fly. Because MANETS are mobile, they use wireless connections to connect to various networks. This can be a standard Wi-Fi connection, or another medium, such as a cellular or satellite transmission.

4. List down the characteristics of ad-hoc network.

1. Lack of fixed infrastructure
2. Dynamic Topology
3. Bandwidth constrains,variable capacity of links.
4. Energy constrained operations.
5. Increased vulnerability

5. What is vulnerability?

In computer security, a **vulnerability** is a weakness which allows an attacker to reduce a system's information assurance. **Vulnerability** is the intersection of three elements: a system susceptibility or flaw, attacker access to the flaw, and attacker capability to exploit the flaw.

6. What are all the operational constraints of MANET?

1. Low processing capability
2. Low bandwidth
3. Low storage capacity

4. Low battery power

7. What are all the application of MANET?

1. Communication among portable computers
2. Environmental Monitoring
3. Military application
4. Emergency Operations

8. What are all the design issues in MANET?

1. Network size and node density
2. Connectivity
3. Network topology
4. User traffic
5. Operational environment
6. Energy constrains

9. How the network topology result in design issue in MANET?

Due to the high mobility nature of nodes in MANET, the network topology is more dynamic when compare to traditional networks. So new links can form and some get dissolved in a minimum amount of time so routers must keep on update the tables for optimized route so it will result in inefficiency of network utilization.

10. What is routing?

Routing is the process of selecting best paths in a network. In the past, the term routing also meant forwarding network traffic among networks. However, that latter function is better described as forwarding.

11. What is link state protocol?

Link-state routing protocols, such as OSPF and IS-IS, create a topology of the network and place themselves at the root of the tree. Link-state protocols implement an algorithm called the shortest path first (SPF, also known as Dijkstra's Algorithm) to determine the path to a remote destination.

12. What is Distance Vector protocol?

Distance-vector routing protocols use the Bellman–Ford algorithm, Ford–Fulkerson algorithm, or DUAL FSM (in the case of Cisco Systems's protocols) to calculate paths. A distance-vector routing protocol requires that a router inform its neighbors of topology changes periodically.

13. List the types of communication handled by MANET?

1. Unicast
    1. One to One
2. Multicast
    1. One to a group of people.

14. Why Broadcast communication wont supported by MANET?

In this type of transmission, a message is sent to all the nodes in the network. Since unrestrained broadcast communications can choke a MANET,applications usually do not use broadcast communication.

15. List the unicast routing protocols in MANET with example?

1. Proactive
    1. Destination Sequenced Distance Vector Routing
2. Reactive
    1. Dynamic source routing
    2. Ad hoc on-demand distance vector routing
3. Hybrid
    1. Zone Routing Protocols

16. What is proactive?

A proactive approach to MANET routing seeks to maintain a constantly updated topology understanding. The whole network should, in theory, be known to all nodes. This results in a constant overhead of routing traffic, but no initial delay in communication.

17. What is reactive?

Reactive Routing Protocol is a bandwidth efficient on-demand routing protocol for Mobile Ad-Hoc Networks. The protocol comprises of two main functions of Route Discovery and Route Maintenance.

18. What is Hybrid?

It is a combinations of proactive and reactive protocols. In this method proactive is used for near by node and for far away node reactive protocol is used.

19. What is VANET?

Vehicular Ad hoc Networks (**VANETs**) are the promising approach to provide safety and other applications to the drivers as well as passengers. It becomes a key component of the intelligent transport system. A lot of works have been done towards it but security in **VANET** got less attention.

20. Give the differences between MANET and VANET?

MANET	VANET
Nodes moves randomly	Nodes moves Regularly
Mobility is low,Medium Reliability	Mobility and Realiability is high
Node lifetime is depends on power source	Node lifetime is depends on vehicle life time

PART - B

1. Explain in detail about,
    a. Wireless ad-hoc networks and Mobile ad-hoc networks (8).
    b. Characteristics of MANET (8).
2. Explain in detail about,
    a. Characteristics of MANET (8).
    b. Design issues of MANET (8).
3. Explain in detail
    a. Design issues of MANET (8)
    b. Types Unicast Routing in MANET (8).
4. Explain in detail about DSDV Routing (16).
5. Explain in detail about DSR Routing (16).