Sri Bharathi

Arts and Science College for Women

II-M.Sc., computer science

MANET (2marks)

Subcode:P16CSE5B

Unit1

1.Define MANET?

- **MANET is stands for mobile ad-hoc network.A Manet is a type of adhoc network that can change locations and configure itself on the fly.**
- **Because manets are mobility,they use wireless connections to connect to various networks.**

2.What are the two parts in transport layer in the MANET?

- **Manet have two parts of the transport layer:**
  1) **Network layer**
  2) **Transport layer**

3.What is random way point?

- **The random waypoint model was first proposed by Johnson and Maltz.**
- **It is one of the most popular mobility models to evaluate mobile ad-hoc networks (MANET) routing protocols, because of its simplicity and wide availability.**

4.Define Gauss-Markov?

- **Gauss-Markov mobility model to express efficiency of adhoc routing protocols by using the OMNET++ simulator.**
- **A mobile adhoc network (MANET)is a dynamically distributed system of mobile wireless nodes.**

5.What is random walk?

- **A random walk is a mathematical object know as a stochastic or random process.**
- **A path that consists of a succession of random steps on some mathematical space such as the integer.**
- **Example, random walk on the integer number line ,Z, which starts at 0.**

Unit2

1.Define adhoc networks?

- **An adhoc networks is a network that is composed of individual devices communicating with each other directly.**
- **Mode or done suddenly for a particular purpose.**

- **An adhoc wireless networks consist of set of mobile nodes,that are connected by wireless link.**

2.What is mobility?

- **Adhoc wireless networks is highly dynamic due to the movement of nodes.**
- **Hence, ongoing session suffer frequent path prace.**
- **Distribution occur due to the movement of the intermediate node in the path.**

3.What are the issues in designing routing protocols?

- **There are many issues in designing routing protocols,**
  1) **Mobility**
  2) **Bandwidth constraints**
  3) **Error prone shared broadcast radio channel**
  4) **Hidden&exposed terminal problems**
  5) **Resource constraints**

4.What are methods in power aware routing metrics?

- **The traditional wired network routing and cellular wireless network routing,power consumption by the nodes.**
- **The methods are,**
  1. **Minimal energy consumption per packet**
  2. **Maximize network connectivity**
  3. **Minimum variance in node power levels**
  4. **Minimum cost per packet**
  5. **Minimum maximize node cost**

5.What is zone routing protocol?

- **Zone routing protocol is a hybrid routing protocol which effectively combines the best features of both proactive and reactive routing protocols**
- **An intra-zone routing protocols (IARP)is used in the zone where a particular node employs proactive routing**
- **The reactive routing protocol is referred to as inter-zone routing protocol (IERP)**

<u>Unit3</u>

1.What are the issues in designing a multicast routing protocol?

- **Limited bandwidth availability an error-prone shared broadcast channel, the mobility of nodes with limited energy resources**
- **There are several issues involved in designing a multicast routing protocols,**
  1. **Robustness**
  2. **Efficiency**
  3. **Control overhead**
  4. **Quality of service**
  5. **Dependency of the unicast routing protocol**

6. **Resource management**

2.Define heterogeneous network?

- **The heterogeneous network is network for which an area is covered simultaneously by sells of different sizes**

3.Advantages of mesh-based multicast routing protocols

- **The adhoc wireless networks, wireless links break due to the mobility of the nodes**
- **The presence of multiple paths adds to the robustness of the mesh-based protocols at the cost of multicast efficiency**

4.What is multicast priority scheduling protocol?

- **The multicast priority scheduling protocol (MPSP)is a packet scheduling mechanism for multicast traffic in adhoc wireless networks**

5.Define location based multicast?

- **Location based multicasting or geocasting, which is a variant of the conventional multicasting,makes use of geographical information for multicasting**
- **The global positioning system (GPS)plays an integral part in all location based schemes**

<u>Unit4</u>

1.Define dynamic topology?

- **Adhoc wireless networks experience rapidly changing network topology due to the mobility of nodes**
- **This can lead to frequent path break, partitioning and remerging of networks and high delay in reestabliment of the paths**
- **Hence the performance of a transport layer protocol is significantly affected by the rapid changes in the network topology**

2.What is the network security requirements?

- **There are many network security requirements,**
    1) **Confidentiality**
    2) **Integrity**
    3) **Availability**
    4) **Non-reputation**

3.What are the network security attacks?

1) **Network layer attacks**
    i. **Wormhole attack**
    ii. **Black hole attack**
2) **Transport layer attacks**

i. **Session hacking**

3) **Application layer attacks**

ii. **Repudiation**

4) **Other attacks**

4.Define key management?

- **Key management is also a central component in MANET security**
- **The purpose of key management is to provide secure procedures for handling cryptographic keying materials**
- **The tasks of key management include the key generation,key distribution and key maintanance**

5.Define the end -to-end route authentication?

- **The Main goal of this end -to-end route authentication process is to ensure that the corrected intended**
- **Destination r is reached by the packet sent from the source node**
  - **Source node S**
  - **Destination node D**

<u>Unit5</u>

1.Expand RTT

- **RTT is the round trip time**
- **It is the duration in milliseconds (ms)it taken for a network request to go from a starting point to a starting point**

2.What is ultra wideband radio(UWB)?

- **The ultra wideband or ultraband is a radio technology that can use a very low energy level for short range,high-bandwidth communications over a large portion of the radio spectrum**
- **UWB has traditional applications in non-cooperative radar imaging**

3.What are the design goals for a cross layer architecture?

- **There are three goals for a cross layer architecture**
  - **Rapid prototyping**
  - **Minimum intrusion**
  - **Portability**

4.What are the two main components of ECLAIR?

- **ECLAIR which can serve as a blue print for development of cross layer feedback systems**
- **ECLAIR consists of two main components are,**
  - **Optimization subsystem**
  - **Tuning layers**

5.What is link/MAC layer?

- **The functions of link/MAC layer are improving link reliability through forward error correction (FEC)and automatic repeat request (ARQ)**
- **The link/MAC layer is current FEC scheme, number of frames retransmitted, frame length,point in time when the wireless medium is available for transmission and hand-off related events**