Important Instructions:

1) **Open this MS-Word document and start writing answers below each respective question given on page 2.**
2) **Answers the question in the same sequence in which they appear.**
3) **Provide to the point and concrete answers.**
4) **First read the questions and understand what is required of you before writing the answer.**
5) **Attempt the paper yourself and do not copy from your friends or the Internet. Students with exactly similar answers or copy paste from the Internet will not get any marks for their assignment.**
6) **You can contact me for help if you have any doubt in the above instructions or the assignment questions.**
7) **All questions must be attempted.**
8) **Do not forget to write your name, university ID, class and section information.**
9) **Rename you answer file with your university ID# before uploading to SIC.**
10) **When you are finished with writing your answers and are ready to submit your answer, convert it to PDF (no MS Word) and upload it to SIC unzipped, before the deadline mentioned on SIC.**
11) **Do not make any changes to the format provided.**
12) **Failure in following the above instructions might result in deduction of marks.**

Sessional Assignment, Course: - Mobile Computing

Deadline: - Mentioned on SIC **Marks: - 20**

Program: - BS (CS), BS-SE **Dated: 11 April 2020**

Related Course: Lecture 7 and 8.

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Class and Section: 8th semester sec: B

Q1: In what aspects is an Adhoc network different from infrastructure networks? (3)

Ans: In simple words we can define that infrastructure mode requires a central access point that all devices connect to that central access point. While Adhoc mode is also known as peer to peer mode. Adhoc mode do no requires a centralized access point. Instead device on the wireless network connect directly to each other.

Q2: What is the difference between reactive and proactive routing protocols in MANETS? (3)

Ans: The purpose of routing protocol is each node participating in the network acts both as a host and a router and must be to forward packets for other nodes. An ad-hoc network as centralized characteristics which imposes new demands on the routing protocol. The most important characteristic is the dynamic topology which is a consequence of the node mobility. Nodes can change position quite frequently which means that we need a routing protocol that quickly adapts to topology changes. With this protocol should try to minimize control traffic such as periodic update messages. Instead of routing protocol only reactive can be calculate routes based on specific request. We can identify which is perform well when mobility is high. The size of the network and the traffic load affects protocols based on source routing like DSR to some extent. A large network with many mobile nodes and high offered load will increase the overhead for DSR quite drastically. By observation a hop by hop based routing protocol like AODV is more desirable.

Q3: Differentiate between regular and MPR flooding? (2)

Ans:

Regular flooding:

Flooding is the forwarding by a router of a packet from any node to every other node attached to the router except the node from which the packet arrived. Flooding is a way to disturb routing information updates quickly to every node in a large network.

MPR flooding:

The multipoint relay minimizes the flooding of broadcast packets in the network by reducing duplicate retransmission in the same region.

Q4: On which path is the route reply message sent in DSR? (3)

Ans: When node A wants to send a packet to node B but does not know the route to B node A initiates a route discovery. Source node A floods route request (RREQ). Each RREQ has sender address destinations address and unique request ID determined by the sender.

Q5: What is source routing? (2)

Ans: Source routing also called as path addressing allow the sender of packet to partially or completely specify the route the packet takes through the networks. Source routing will determine the entire route. Routers only act as stored forward device.

Q6: If AODV does not store route information in the packet then how does the routing works? (4)

Ans:

- If route reply is not received before a times expires this entry is deleted.
- Either destination node of intermediate node response with valid route.
- When RREQ is forwarded back, the add of previse nodes its broadcast id are stored.
- Are needed to forward packet to destination.

Q7. What are the functions of sequence numbers in AODV? (3)

Ans:

- Sequence numbers are used to avoid old/broken routes.
- Sequence numbers prevent formation of routing loops.
- Unused routes expire even if topology cannot change.