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 A

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

> **Ans First thing is ad hoc network have no infrastructure and it has limited range.**
> **It didn't require**
>> 1) base stations
>> 2) back bone
>> 3) online server
>
> **It has no network operators.**
>> 1) Self-organization
>> 2) Self-configuration
>> 3) Self-healing
>
> **And its multi-hop wireless communication**

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

> **Ans**
>
> **Proactive:** In the proactive when new note comes in to the network each node update the table and propagated it in network. So that every note knows its surrounding.
>
> **Reactive:** In the reactive the note updates the table when they want to communicate in the network. The route discovery occurs by flooding the route request packets throughout the network.

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

  Ans:
   REGULAR FLOODING: Regular flooding can be as simple as: when a packet must be flooded, each node. In the network repeats the packet first time it receives it. Starting from the source of the packet, each node in the component connected to the source will receive the packet at least once (but typically multiple times).

   MPR FLOODING: Multi Point Relays is a set of selected neighbor nodes. It 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: Route reply message is sent on a route obtained by reversing the route appended to receive route request.

Q5: **What is source routing?** **(2)**
Ans: Source routing is also known as path addressing Packet header contains a route which is represented as a complete sequence of nodes between a source-destination pair. It is a specific routing process where sender can specify the route that data packets take through a network. Intermediate nodes use the source route included in a packet to determine the neighbor to send the packet.

Q6: **If AODV does not store route information in the packet then how does the routing works?** **(4)**
Ans: Routes does not need to be included in packet header. Node maintain routing tables containing entries only for routes the are active in use. Sequence numbers are used to avoid broken routes and prevent formation of routing loops. Unused routes expire even if topology does not change

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

Ans: **The functions of sequence numbers in AODV are:**

- Every entry in the routing table is associated with a sequence number.

- The sequence number act as a route timestamp and ensures the freshness of the

route.

- Receiving a route request packet, an intermediate node compares its sequence

- Number with the sequence number in the route request packet.

  If the sequence number already registered is greater than that in the packet, the existing route is more up to dated