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:_____BS(CS) 5TH SEMESTER_____

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

ANSWERE:

1. It is adhoc network because it does not rely on
- Preexisting infrastructure such as routers in wired network.
- Access points in wireless networks.

2. In Adhoc network device are directly connected to each other while in infrastructure devices are indirectly connected through the wireless access point.
3. Adhoc mode can be easier to set up if you just want to connect two devices while infrastructure network is ideal if we are setting up more permanent network.

Q2: What is the difference between reactive and proactive routing protocols in MANETS? (2)

ANSWER:

difference between reactive and proactive routing protocols in MANETS

MANETS:

MANET stand for in mobile adhoc network .

There are two type of adhoc routing protocols.

- Proactive routing protocols.
- Reactive routing protocols.

PROACTIVE ROUTING PROTOCOLS:

- **If contains information of the routes to all the possible destination mobile nodes.**
- **The proactive protocols are slower in performance than reactive protocols.**
- **EXAMPLE:**

1. DSDR
2. STAR

REACTIVE ROUTING PROTOCOLS:

- **(on - demand routing) no node maintain a routing table.**
- **The delivery of packet data is much more efficient than proactive protocols.**
- **EXAMPLE:**

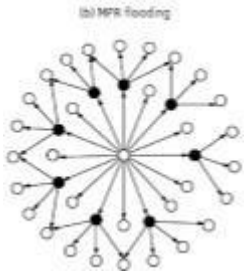
1. DSR
2. AODV

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

ANSWER:

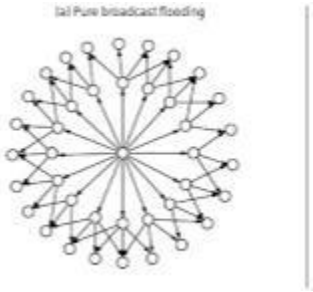
Differentiate between regular and MPR flooding

MPR flooding:



- MPR flooding mechanism ensures that each node in the network receives a flooding packet at least once.
- MPR is the one of most optimization having each node select a minimal set of "relay nodes" responsible for relaying flooding packets.
- MPR is efficient use of bandwidth because it saving valuable bandwidth.

REGULAR/PURE BROADCAST FLOODING:



- A regular or pure broadcast flooding be simple as : when a packet must be flooding, each node in the network repeats this packet the first time it receive it.

- SO each node receive at least one time or multiple times the same packet generated or broadcast by source.

- Not efficient use of bandwidth.

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

ANSWER:

- A reactive protocol, dynamic source routing DSR, use shortest hop forwarding paths to route the packet to the destination node.

- TO return the route reply, the destination nodes require a route to the source node.

- IF the route is in the destination nodes route cache the route would be used, otherwise the node will reverse the route request message header.

Q5: What is source routing? (2)

ANSWER:

Source routing also known as path addressing can be set to specify the routers that a packet should pass through on the way to its destination.

Source routing allows for troubleshooting and various transmission.

There are 2 modes of source-routing.

1) loose source routing specifies that the packet should pass though the listed hops
2) Strict source routing specifies the exact path on a hop-by-hop basis.

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

ANSWER:

- AODV stores the whole information about (route, source and destination) in the intermediate node tables to access the path.
- AODV assigns times stamps to the path so that it always uses fresh paths.
- AODV uses sequence number to avoid recording state information, which has been in loop.

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

ANSWER:

- Sequence numbers are used to avoid old/broken routes.
- Sequence numbers prevent formation of routing loops.
- For determine of up-to-date path to destination, AODV uses sequence numbers.
- Every entry in the table is associated with a sequence number.