

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

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Related Course: Lecture 7 and 8.

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Class and Section: BSSE (Sec-A)

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

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

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

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

Q5: What is source routing? (2)

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

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

Ans1): Adhoc network: The word ad hoc is a Latin word which means “for this”. In Computer networks it means “a wireless network without an infrastructure”, or the type of network that can work independently without a central access point.

Infrastructural network: In computer networks such type of networking concept exists when a central medium is required for routing the data from sender to the receivers device.

Difference:

- In Infrastructural network a central routing device is needed to route the data in the right direction while in Adhoc network every device is capable of routing the data itself.
- Infrastructural network is centralized while ad hoc is decentralized. In infrastructural network devices connectivity is dependent on the centralized device for routing the data in the right path while in case of ad hoc network every device can perform the routing independently.

Ans2): Differences between proactive and reactive routing:

- The proactive routing is the type of routing where lists of destinations and routes are maintained while dividing the whole network periodically while in case reactive routing the destinations and routes are fetched on demand.
- In proactive routing the power requirement and bandwidth requirement are both high while in reactive routing both of these are required in lesser quantity comparatively.
- The routing tables in proactive routing are updated periodically while in reactive routing the demanded route and destination details are provided when needed.

Ans3): Differences between Regular flooding and MRP flooding:

- In case of Regular flooding each node sends the packet to the next node while in MPR the packet is one send to a node once and no over flooding takes place.
- In Regular flooding the packet flooding starts from the source of the packet, each node in the component connected to the source will receive the packet at least once, While in case of MPR Flooding the number of repeaters are lesser but still ensuring that each node in the network receives a flooded packet at least once.

Ans4): Dynamic Source Routing(DSR) uses existing routes of source to send route reply messages. MAC routes are used when the links are bi directional. RREP is used when the links are unidirectional.

Ans5): The Source Routing is the path allocating, addressing a sender packet to partially or completely allocates the route the data takes through the network to the receiver. Or when a data is sent by one node to another the entire route is included in the header of the packet.

Ans6): The AODV does not store route information in the packet and does the routing because each and every node that forwards the packet remembers its reverse path to the sender node. The sender node sends the message to the receiver node and reverse back through its source routing.

Ans7): Functions of Sequence numbers in AODV:

- Sequence number help in the prevention of loops formation.
- Sequence number are used to avoid broken or bad routes.

- Sequence number act as a route timestamp, ensuring freshness of the route.