

## **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.**

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**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 (CS5th semester \_\_\_\_\_**

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

**ans .**

1. Devices on the network all communicate through a single access point: a device that allows wireless devices to connect to a wired network using Wi-Fi.
2. Problem: the large overhead of maintaining the routing tables .
3. In Adhoc network device are directly connected to each other while in infrastructure devices are indirectly connected through the wireless access point. Adhoc mode networker quire more resources during device mobility ,while anaccess point mode generally remains stationary.
4. Adhoc mode can beasierto setupif you just want to connect two devices while infrastructure network isidealif weare setting up more permanent network.

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

**ANS .** An ad hoc network is Latin words are for this purpose. It is refers to a network connection established for a single period and does not require a router or a wireless base station. A Mobile ad hoc network is a one type of network that can change locations and configure itself on the fly. But MANETS are uses mobile with wireless connections to connect to various networks. Another medium, such as a cellular or satellite transmission.

A mobile ad hoc network (MANET) is a continuously self-configuring, infrastructure-less network of mobile devices connected wirelessly. Each device in a MANET is free to move independently in any direction, and will therefore change its links to other devices frequently.

## MANETS

MANET stand for in mobile adhoc network. There are two type of a dhoc routing protocols.

Proactive routing protocols.

Reactive routing protocols.

## PROACTIVE ROUTING PROTOCOLS:

(Table-driven routing)each node maintains arouting Tables. 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
3. CGSR

REACTIVE ROUTING PROTOCOLS: □(on-demand routing) nono demaintain arouting table. □ The process route discovery occurs by flooding the route request packet throughout the mobile networks. 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)

ANS .

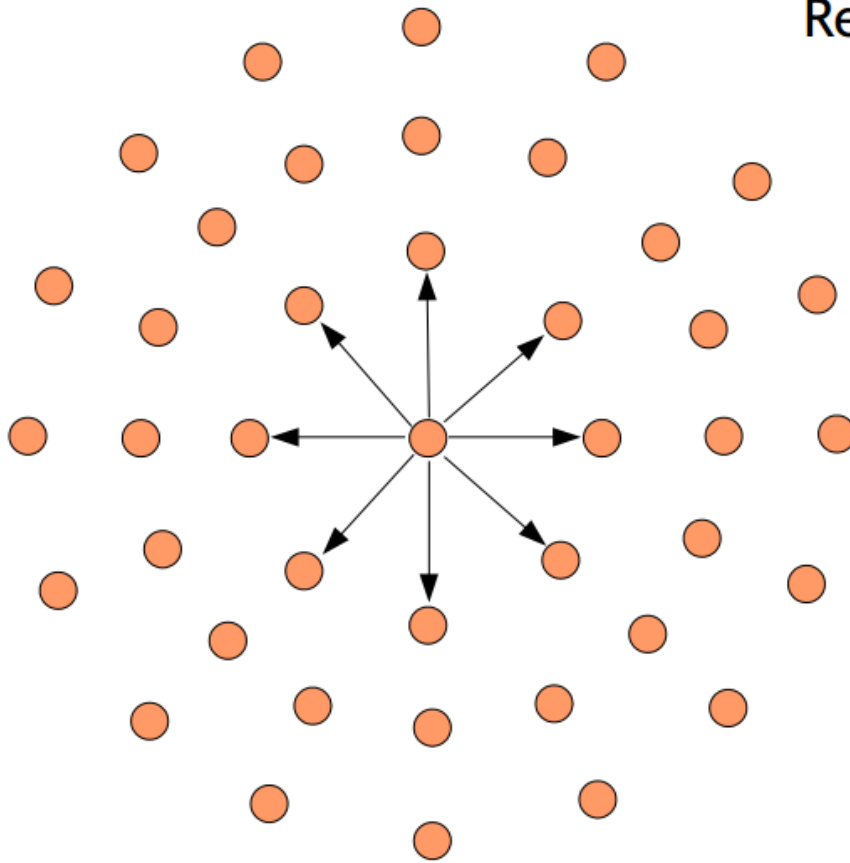
Flooding is a simple routing technique in computer networks where a source or node sends packets through every outgoing link.

Flooding, which is similar to broadcasting, occurs when source packets (without routing data) are transmitted to all attached network nodes. Because flooding uses every path in the network, the shortest path is also used. The flooding algorithm is easy to implement.

**REGULER FLOODING**

MPR flooding mechanism ensure that each node in the network receive saflooding packet atleastonce. MPR is the one of most optimization having each node selest a minim alsetof “relaynodes” responsibl efor relaying flooding packets.

# Regular flooding 1



## MPR FLOODING

So, Multipoint Relay minimizes the flooding of broadcast packets in the network by reducing duplicate retransmission in the same region.



**Seasonal variation**

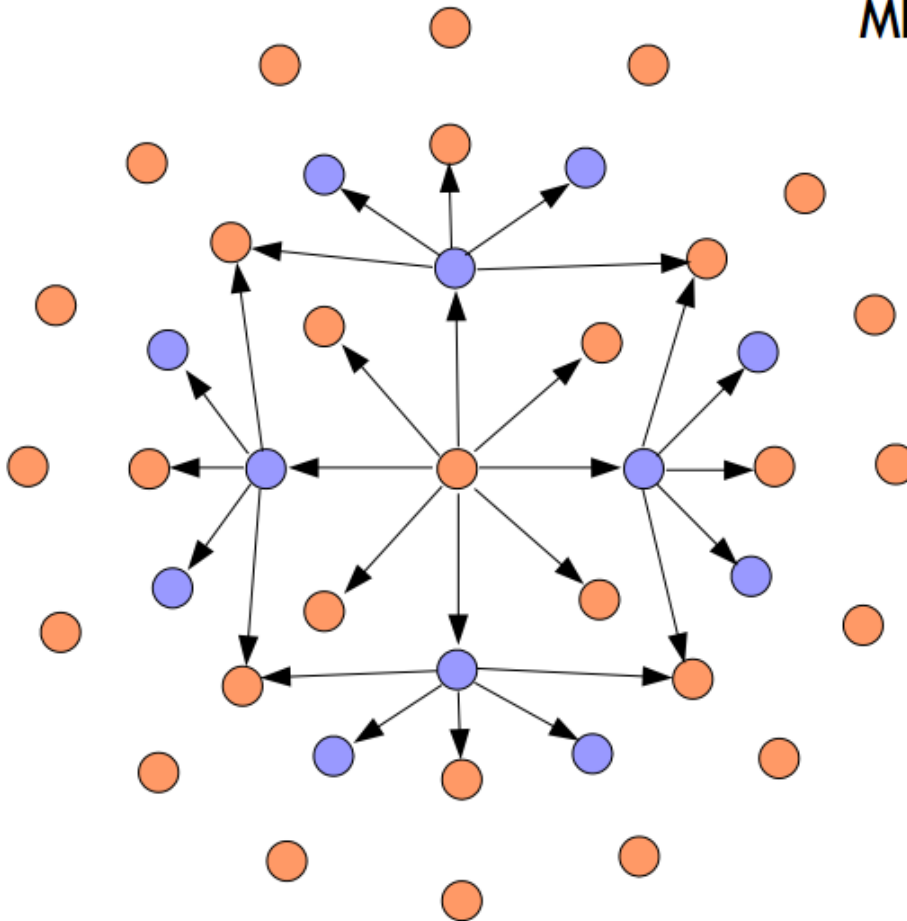
The sheep market is affected by seasonal supply and demand. Returns improve when producers match production to market demand by adopting appropriate breeding and feeding policies.

By regularly monitoring how animals are progressing towards finish, it is possible to adjust feeding regimes to bring stock to market at the best time.

Market information is vital and can be accessed online at [www.hccmpw.org.uk](http://www.hccmpw.org.uk).



**MPR flooding 2**



**Q4: On which path is the route reply message sent in DSR?**

**(3)**

**ANS .**

Are active protocol , dynamic source routing DSR , uses horte sthop forwarding path sto route the packet to the destination node. TO return the route reply , the destin ation node require earouteto theso urce node. IF the route is in the destination nodes route each ether out e would beused , other wisethe node will reverse ther out request message

header.

A mobile ad hoc network (MANET) is one of the narrowest and most specific of research topics in the field of telecommunications. The growth of this type of network, and the large number of applications with mobility requirements, has led to a wider study and research in the analysis and enhancement of the work in this area.

**Q5: What is source routing?**

(2)

ANS , In computer networking, source routing, also called path addressing, allows a sender of a packet to partially or completely specify the route the packet takes through the network. In contrast, in conventional routing, routers in the network determine the path incrementally based on the packet's destination. In this techniques where by these nder of a packet can specify the route that a packet should take through the network

**Q6: If AODV does not store roue information in the packet then how does the routing works?**

(4)

ANS .

1. Adhoc on- demand distance vector idara active distance vector Routing protocols.
2. AODV uses sequence number to avoid recording state information, that has been in loop
3. AODV assigns times stamps to the path so that it always suse fresh paths.
4. AODV stores the whole information about (route ,source and destination)in their termediate node tables to access the path.

**Q7. What are the fuctions of sequence numbers in AODV?**

(3)

ANS .

- ◆ AODV differs from other on-demand routing protocols in that it uses sequence numbers to determine an up-to-date path to a destination.
- ❖ Every entry in the routing table is associated with a **sequence number**.
- ❖ The **sequence number** acts as a route timestamp, ensuring freshness of the route.
- ❖ The use of wireless networks has increased tremendously due to the nonrestriction of the nodes to be stagnant physically .
- ❖ MANETs are such infrastructure-less wireless networks where the communication between the nodes is performed through multihop paths .
- ❖ . MANETs have gained popularity in various domains such as military operations, natural calamities, maritime communications, vehicular computing,