**The Questions:**

**Q1//A) Why Maintaining Ongoing Connection?**  **B) What causes the jitter?**

**C) How is tunneling used in mobile IP?**

**Q2// Choose clearly ONE answers for each question**

1. **Routers in the Internet know and care only how to route packets based on. (Choose the best answer)**
2. The IP address and Subnet number of the source
3. The IP address and Subnet number of the destination
4. The Subnet number of the destination address in each packet
5. The Subnet number of the source address in each packet
6. All of them
7. **The mobile IP protocol is aimed at. (Choose the best answer)**
8. Moving the IP protocol around
9. Providing continuous connections to mobile users in the IP networks
10. Defining a different version of IP protocols that can roam
11. Providing users with mobile addresses rather than fixed addresses.
12. Breaking an established TCP/IP connection into a mobile connection
13. **A care-of-address will be assigned to a mobile node**
14. when the mobile node moves from its home network to a foreign network
15. when the mobile node installs a new network interface card
16. when the mobile node moves within its home network
17. when the mobile node reboots within its home network
18. when the mobile node moves back to its home network
19. A host with home address **128.18.5.1** moves to a new network where it gets a care of address **129.18.5.1**

by using mobile IP. Which of the following is the most likely IP address for the host's

foreign agent?

1. 127.0.0.1
2. 128.19.5.1
3. 128.18.5.2
4. 129.18.5.1
5. 128.18.5.1

**5- Round Trip Time (RTT ) is the time duration between.**

1. A sender sending the first bit of a message and the time the receiver receiving the first bit of a message
2. A sender sending the last bit of a message and the time the receiver receiving the last bit of a message
3. A sender sending the first bit of a message and the time the receiver receiving the last bit of a message
4. A sender sending a message to a receiver, and the time the receiver receiving an acknowledge from the sender
5. A sender sending a message to a receiver, and the time the sender receiving an acknowledge from the receiver

**Q3// Fill in the blanks with the correct word(s):**

1. **…………………….** is the maximum amount of data that can be transferred through a network during a specified period of time.
2. **…………………….** is the time duration between the first bit of a message / packet is transmitted at the sender and the first bit of a message is received at the receiver.
3. **…………………….** the permanent IP address of a mobile node while it stays at home network.
4. An Internet application needs to know the **………………..** and **……………….** of the remote entity with which it is communicating.
5. **..................………..** a visited network where a mobile node moves to.

**Q4//** **What is agent handoff? How does mobile IP handle handoff? How does Mobile IP improve it?**

**Nodes P, Q and B are within the radio range of each other. Assume both P and Q has data to send to B, apparently at the same time:**

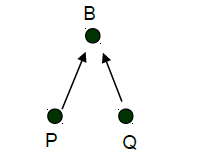


Figure 1: Three wireless nodes.

1. **Explain How MACA can handle this problem ?**
2. **If you think that the MACA is not good enough, do you think that we have another protocol that is better? and why it is better?**

**Q6// Fill in the blanks with the correct word(s):**

1. ………..………. in security means that the information has not been changed by a third party during its transmission from the sender to the receiver.
2. The definition of …………….......is that keep watching while you transmit, so that if someone else transmits at the same time, you can stop your transmission and try again later.
3. …………….. Is a protocol which is an alternative to the traditional CSMA
4. The message exchange of MACAW is………, ………, ……..,…….,……

**Q7//** State **TRUE** or **FALSE** a head of the following sentences, then correct the F**ALSE** ones.

1. Packets of a correspondent travel to home agent first
2. The definition of Denial of service (DoS) is that an attacker may replay the registration request message after a mobile node already leaves a foreign network.

**Q5// There are three wireless nodes P, Q and B located in the diagram show in Figure 1.**

3-MACA has some problems which are possible collision over RTS and fairness issue.

5-The basic message exchange which is used in MACA is RTS - CTS - DATA - ACK

**Q8// A)** A Compare and contrast each of the following concepts.

Ad hoc network with Cellular Networks

**B)** What is Mobile IP? How to maintain ongoing connection?

**Q9//** Give the best answer for each of them:

1. What is minimal tunneling protocol?
2. What is IP in IP encapsulation?
3. What are the problems with MACA?

**Q10 //**

**A)** State **TRUE** or **FALSE** a head of the following sentences, then correct the F**ALSE** ones

1. Mobility of Mobile IP is provided in cellular networks
2. Registration lifetime is one of the fields which are in the Registration advertisement message.

3) In wireless sensor network the flowing of data ends at special nodes **called base station.**.

4)In table-driven protocol ,every node maintains the network topology information in the form of routing tables by periodically exchanging routing information

**B)** **Fill in the blanks with the correct word(s):**

1. ………… is used by a home agent to collect packet destined to a mobile node.
2. The basic packet exchange which is used in MACAW is ………. ……………….

4-…………… is a protocol in Bluetooth which is responsible for link setup between Bluetooth devices and ongoing link management

3- ..................……….. a visited network where a mobile node moves to.

4-……………………. the permanent IP address of a mobile node while it stays at home network..

5/----------------------correspondent gets foreign agent address of mobile ,send directly to mobile.

1. In mobile tunneling we have two types of encapsulation ----------------, -----------------