**Computer Networks**

Fall 2018

Assignment No. 1

Assigned: 22.10.2018

Due: 29.10.2018

1. If you weren't connected to a network, how would you transfer a file from your home machine to the machine you use at school? Explain.

2. What is the main disadvantage of being connected to a network? Explain.

3. What is the function of a MAC protocol? Explain.

4. What are two reasons for using the layered protocol design philosophy? What are the disadvantages?

5. What are the components of network latency? Explain. Is network latency constant? Why or why not?

6. What is encapsulation and de-capsulation? Describe how they work.

7. Different topologies behave differently when a connection fails. You are required to discuss the effect on the network when only one device connection fails in the following cases:

1. Seven devices are connected through a ring topology.
2. Six devices are connected through a dual ring topology.
3. Four devices are connected through a mesh topology.
4. Twelve devices are connected through a star topology (Note: Do not consider the hub failure).
5. Fifteen devices are connected through a star topology and only the hub is failed.
6. Eight devices are connected through a bus topology.