**Introduction to Computer Security**

Quiz: 1

**Question # 1 (3.5 Marks)**

**Classify each of the following as a violation confidentiality, integrity or availability.**

a. John copying Mary's homework. C

b. Paul crashing Linda's system A

c. Carol changing the amount of Angelo's check from $100 to $1000 I

d. Gina forging Roger's signature on a deed. I

e. Rhonda registering the domain name "AddisonWesley.com" and refusing to let the

Publishing house buy or use that domain name. A

f. Jonah obtaining Peter's credit card number, and having the credit card company cancel the

card and replace it with another bearing a different account. I

g. Henry spoofing Julie's IP address to gain access to her computer . I

**Question # 2 (2 Marks)**

The aphorism “Security through obscurity” suggests that hiding information provides some level of security. Give an example of a situation in which hiding information does not appreciably to the security of a system. Then give an example of a situation in which it does.

An example of a situation in which hiding information does not add appreciably to the security

of a system is hiding the implementation of the UNIX password hashing algorithm. The

algorithm can be determined by extracting the object code of the relevant library routine and

disassembling it. (The library must be world readable in order for user programs to load the

routine.) Revealing the algorithm does not appreciably simplify the task of an attacker because

he knows how to hash passwords, but he still must guess the password itself.

An example of a situation in which hiding information adds appreciably to the security of a

system is hiding a password or cryptographic key. This is a private piece of information affecting

only a single user. Revealing it would give an attacker immediate access to the system.

**Question # 3: (1.5 Mark)**

Is it possible to design and implement a system in which *no* assumptions about trust are made. Why or why not?

No it is not possible to design a system in which no assumptions about trust are made because eventually we have to design the creator of that system i.e we have to trust humans .

**Question # 4 : (3 Marks)**

For each of the following , give an example of a situation in which the statement is true

1. Prevention is more important than detection and recovery
2. Detection is more important than prevention and recovery
3. Recovery is more important than prevention and detection.
4. An example of when prevention is more important than detection and recovery is the

nuclear command and control system. By the time an intrusion is detected and recovered from, an attacker could have launched nuclear weapons.

1. An example of when detection is more important than prevention and recovery is in the

protection of medical records from unauthorized emergency room personnel. If someone

is brought into an emergency room, there may not be time to secure the patient’s

permission to access his medical records. But if the records are accessed illicitly, the

security personnel should detect it.

Bonus Question for those who are not prepared. It will only be marked if a student is getting less than 3 marks in this Quiz. ☺

Define Confidentiality, Integrity and Availability and one example for each (3 Marks)