**CIS-481: Introduction to Information Security**

**InfoSec Chapter Exercise #9**

**Team: Project Team 11**

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**Logistics**

1. Get together with other students on your assigned team in person and virtually.
2. Discuss and complete this assignment in a collaborative manner. Don’t just assign different problems to each teammate as that defeats the purpose of team-based learning.
3. Choose a scribe to prepare a final document to submit via Blackboard for grading, changing the file name provided to denote the number of your assigned **Team**.

**Problem 1**

Name and describe the four categories of locks based on triggering process (discussed in your text on pp. 508-509). In what situations is each type of lock preferred? *(8 points)*

There are actually four locks based on the triggering process:

* Manual Locks
* Programmable Locks
* Electronic Locks
* Biometric Locks

Manual Locks: These are actually the type locks which are opened using key, these locks are huge and zero chance of failure in case the quality of lock is good and the usability and applying of these locks can only be done by proper lock-specialists. It is preferred over all situations no matter what the condition is, it is useful because as once they are put into service, key combinations – the lock patterns (working) can only be done by specialists. The keys are what used to open these locks, in case if key gets stolen. It might lead to danger, this is a danger why it is not preferred at places having sensitive organizational, individual information.

Programmable Locks: Whereas, the programmable locks are often similar to that of manual locks, as one can change the lock and key patterns without the help of a specialist. It provides least protection as key patterns could be changed by anyone and it might be vulnerable for the organization, no matter what. It can be used in order for securing computer rooms.

Electronic Locks: Electronic or Electromagnetic locks are known to be as the locks which have the alarm systems, it has the sensors, at many places there are camera’s in which only authorized person can enter. Nonetheless, if a person is unauthorized (sensors will not detect him) than in that case, it would ring alarm. It is necessary for high security endeavors; it can be used at a place where high security is required

Biometric Locks: It is the most sophisticated lock system, there are finger-print scanners or face scanners, which authorize the person. It is used at highly sensitive places where there should be security dangers

**Problem 2**

Your text describes three elements that must be present for a fire to ignite and continue to burn. Newer research suggests a fourth element is required, too. See:  
  
<https://www.firesafe.org.uk/information-about-the-fire-triangletetrahedron-and-combustion/>   
  
Name and describe the four elements of the “fire tetrahedron”. How do fire suppression systems manipulate the four elements to quell fires? *(9 points)*

The key elements of fire tetrahedron are actually three Oxygen (O2), Fuel (petroleum, gasoline, diesel) which results to heat. The fourth core element is actually new devised. A chain chemical reaction occurs when fire occurs, the reaction is in between Oxygen, Fuel and heat. This chemical chain reaction is combustion, it is a renewable reaction, when it occurs one cannot consider how disastrous it can be, so these are the four actual elements, which lead to impulsive fire disaster. Hence an exon-thermic compound chain response in the material. Every one of the four sides of the fire tetrahedron represent the Fuel, Heat, Oxygen and Chemical Chain Reaction. Hypothetically, fire quenchers put out fire by removing at least one components of the fire tetrahedron.

**Problem 3**

Name and describe the five classes of fire described in the text. How does the class of a fire dictate how to control the fire? *(8 points)*

**There are actually five classes which are summed up:**

**Class 1: These are known to be as the fires including natural solids like paper and wood**

Class 2: These are known to be as the fires including combustible Liquids

Class 3: These are known to be as the fires including combustible Gasses

Class 4: These are known to be as the fires including Metals

Class 5: These are known to be as the fires including Cooking oils.

These are actually the classes of fire depending on their intensity and disaster.