

# Chapter 1



Always A Pioneer, Always Ahead



## Introduction to Physical Security and Electronic Surveillance System

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**By the end of the lesson the student will be able to:**

- a. understand the physical security system as an overview**
- b. understand the component inside each of the physical security system and functionalities.**
- c. explain on the purpose of physical security system implementation**

# CONTENT



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- Physical Barriers
- Lock Systems
- Access Control System
- Monitoring System
- Sensors
- Detection and Prevention System
- Light System



# What is Physical Security?

- Physical Security means security measures that are designed to deny unauthorized access and protect facilities, equipment, talent and resources against dangerous event [1].
- The harmful events are such as :
  - espionage
  - theft
  - terrorist attacks
  - natural disaster
  - man-made or political events



# How Physical Security works?

- Physical security uses multiple layers of interdependent systems such as CCTV surveillance, security officer, protective barriers, locks, access control protocols, procedures, policies, lights and various techniques of security.



# Physical Barriers

Physical Barrier Category – Fence , Moat, Turnstile, Wall, Door, Window

Human Barrier Category – Security Officer or Guard

Animal Barrier Category – Watch Dog or Goose

# PHYSICAL BARRIER CATEGORY



## Fence







# PHYSICAL BARRIER CATEGORY



WET MOAT



DRY MOAT

MOAT





# PHYSICAL BARRIER CATEGORY

High Gate



Tripod-Manual



Tripod



Tripod-Optical



TURNSTILES



Swing



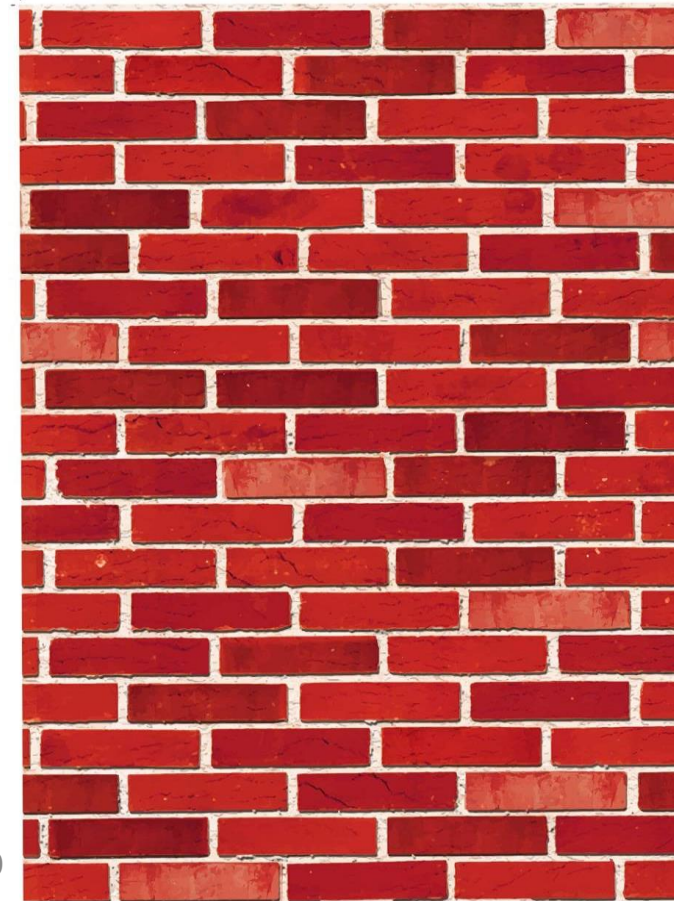
# PHYSICAL BARRIER CATEGORY

North and South Berlin



## WALL

Mexico vs. US





# PHYSICAL BARRIER CATEGORY



DOOR





# PHYSICAL BARRIER CATEGORY

Grille



Security Film



## WINDOW







# HUMAN BARRIER CATEGORY

Security Officer



## HUMAN BARRIER





# ANIMAL BARRIER CATEGORY

Watch Dog



Goose



## ANIMAL BARRIER



# Lock Systems

Lock

Key

Deadbolt



# LOCK

## Types of Locks

Locks can be divided into **three (3)** general types :

1. those that operate on **purely mechanical** principles;
2. those that are **electro-mechanical** and combine electrical energy with mechanical operations; and
3. the **electronic locks**, which add to electro-mechanical lock devices various logic operations associated with integrated circuits.

# LOCK

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## Computer Lock



## Mechanical Lock with Key Combination



## Door Lock



## Lock and Key



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Yale Lock



Sash Lock



DeadLock



Euro Lock



Scandinavian  
Lock



UPVC  
Mechanism



Mortice Handle Lock





# KEY

## Types of Keys :

- 1) **Operating** or "**change**" **keys** are keys that are used to open locks.
- 2) **Duplicate keys** are **copies of operating keys** and are usually stored for use in an emergency or **to replace a lost key**. Duplicate keys must be kept to a minimum and be protected to avoid proliferation and loss of accountability.
- 3) **Master keys** are designed to **open all locks** of a particular series. Key systems can have one grandmaster key for the overall system and several sub-master keys for each subsystem. Master keys can be used as a convenience, e.g., carrying one key instead of numerous keys, but must be carefully controlled.



# KEY

## Types of Keys :

- 4) **Construction keys** open removable lock cylinders installed on the doors during construction of a facility. These cylinders are replaced at the end of construction with cylinders using the facility's key system.
- 5) **Control keys** are used to remove the cylinder of locks for changing keys. These keys are used only in interchangeable cylinder systems.

## Protection of Keys :

- 1) Do not place identifying key tags on rings; if lost, it's an opportunity or invitation for misuse actions.
- 2) Ensure keys are not left on desks, in unlocked drawers, or where they can be easily taken and copied. Remind employees to keep official keys on securely locked in a desk or cabinet, and that they are not to lend them to individuals who is not specifically authorized.

## Protection of Keys :

- 3) Ensure employees promptly return official keys once used on a temporary basis.
- 4) Ensure lost keys are immediately reported to the appropriate official. Locks should be rekeyed immediately and new keys issued when keys are lost or stolen.

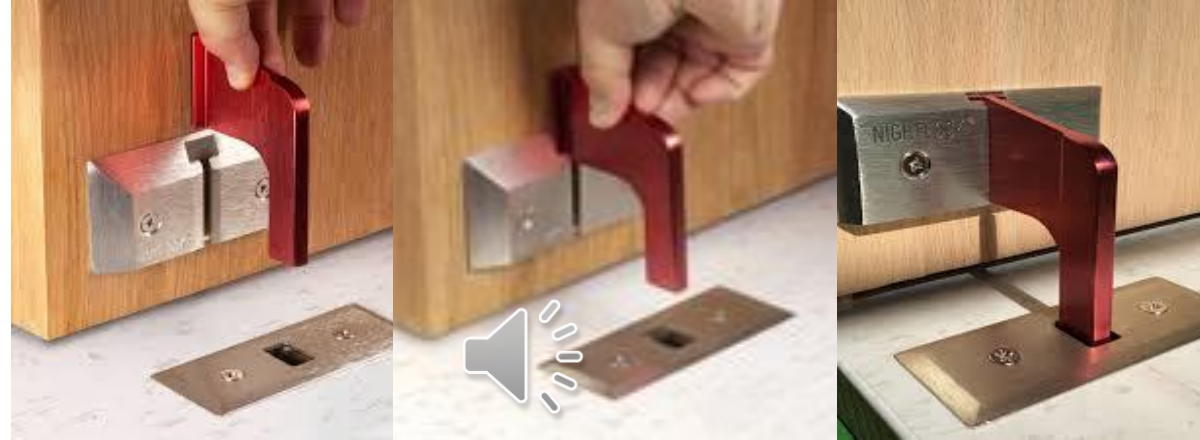
# Deadbolt

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Night Latch



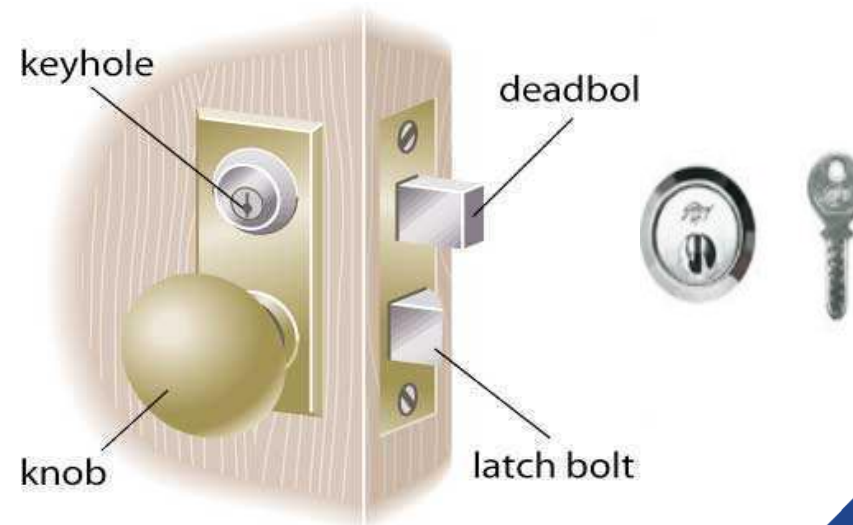
Night Latch



Night Latch



One Sided Bolt



Precision Graphics