

# WORLD MISSION HIGH SCHOOL

## ASSIGNMENT OF CCTV SYSTEM INSTALLATION

**DATE:**21 November,2025

**SUBMISSION DATE:** Monday, **24 November,2025**

**TRAINER: Urban RURANGISA**

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### Scenario Background

World Mission High School wants to improve security on the school campus. The school plans to install a **CCTV Surveillance System** covering:

- The main gate
- Classroom blocks
- Computer lab
- Staff room
- School compound

They will install:

- **8 CCTV cameras (mix of dome & bullet)**
- **1 Network Video Recorder (NVR)**
- **A 16-port PoE Switch**
- **Cat6 network cables**
- **A 2TB surveillance hard drive**
- **UPS system**
- **Outdoor and indoor camera mounts**

You have been chosen as the **student technician** to prepare a list of the necessary **tools, materials, and equipment** needed for the installation.

### STUDENT TASKS

#### 1. Tools Identification

List **five (5)** tools required for CCTV installation and explain the **purpose of each tool**.

#### 2. Materials Description (Critical Thinking)

Identify **four (4)** important materials used during CCTV camera installation and explain **why each material is necessary**.

### 3. Equipment Selection (Problem Solving)

From the scenario above, explain **three (3)** major equipment\*\* needed for the CCTV system and describe **their functions** in the security system.

### 4. PoE Switch Decision

Explain **why a PoE switch** is a better choice for powering cameras instead of using separate power adapters for each camera.

Give **two strong reasons**.

### 5. Storage Capacity Analysis (Application)

The school wants recording to last **at least 20 days**.

Explain **why a 2TB surveillance hard drive** is important and how it affects:

1. Video storage time
2. Video quality (resolution/frame rate)

### 6. Safety Measures

List **three (3)** safety precautions\*\* that must be followed during CCTV installation and explain **why each is important**.

### 7. Testing & Verification

After installation, describe **two tests** you would perform to ensure that:

- All cameras are working
- The NVR is recording properly
- The network is stable

### BONUS QUESTION

The school wants to expand the system in the future to **20 cameras**.

Recommend **two additional equipment** needed to support expansion and explain their purpose.