

071606T4MCT

MECHATRONIC TECHNICIAN LEVEL 6

ENG/OS/MC/CR/02/6/

Install Mechatronic Systems

July/August 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

PRACTICE ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE:

1. You are required to install an automatic factory gate that performs the following functions:
 - When a car approaches the gate, a proximity sensor detects and sends the signal to a programmable controller
 - The controller sends the signal to the actuator(motor) which runs in the forward direction to open the gate
 - Once the car goes past the gate, a proximity sensor detects and sends the signal to the controller.
 - The controller sends the signal to the actuator which runs in the reverse direction to close the gate.

Figure 1 shows the block diagram of the mechatronic system

- i. **Task 1: Draw the wiring diagram and list tools and Equipment.**
 - a. Draw the wiring diagram of the system.
 - b. List down all the tools and equipment required
- ii. **Task 2: Install the System and simulate the program**
 - a. Using PVC minitrunking Install the system on the installation board provided
 - b. Install and simulate the program in Figure 2 into the system
- iii. **Task 3: Carry out electrical tests for the system.**

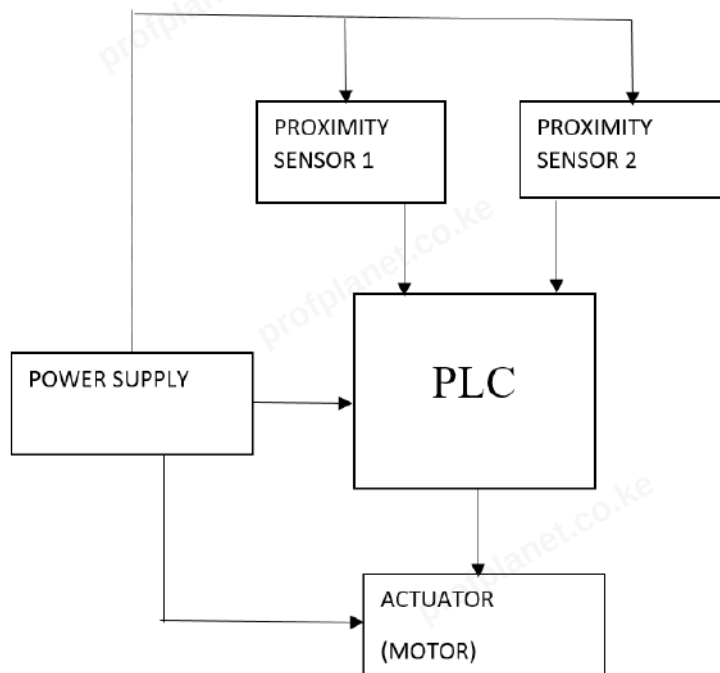


Figure 1|

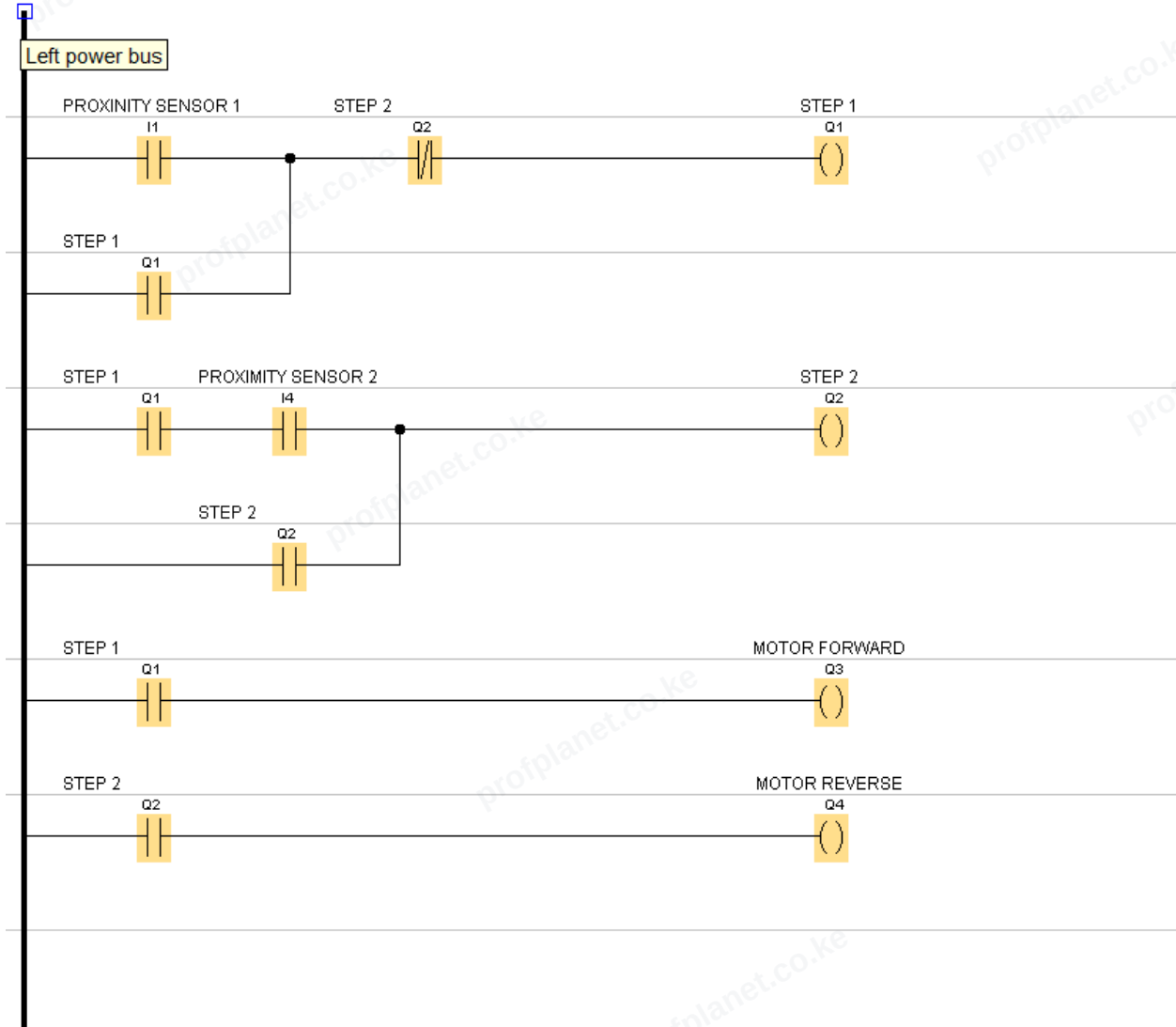


Figure 2

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