

021306T4 ICI

INDUSTRIAL CONTROLS INSTALLATION LEVEL 6

ENG/OS/IC/CR/02/6

Manage Programmable Logic Controllers (PLCs) and Scada Systems

July/ August 2025



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

PRACTICAL ASSESSMENT

4 HOURS

INSTRUCTIONS TO CANDIDATE

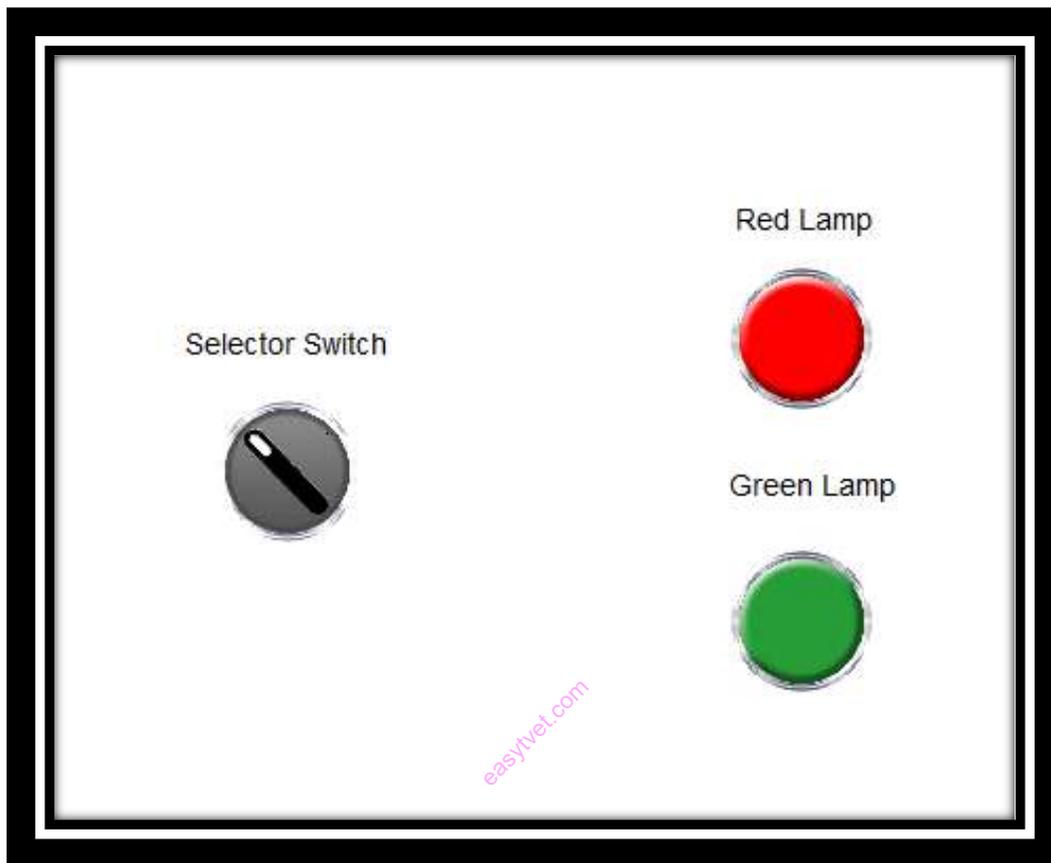
You are required to develop and maintain a PLC controlled lighting system such that a single switch is used to control two lights (Red and Green). No time should the two lights be ON at the same time.

Implement the above using an HMI

TASKS:

1. Interpret the tasks appropriately
2. Develop a PLC program to perform the required task
3. Use appropriate addresses on the PLC program
4. Hard wire the circuit to implement the program using the provided resources. Stick to the addresses of the program
5. Download the program to the PLC

6. Develop an HMI program to perform the task. The interface should look like the one below.



7. Download the program to HMI
8. Configure the HMI appropriately
9. Control the lights using the push button switch or the HMI button and visualize the lights status on the HMI

RESOURCES:

You are provided with the following resources;

- Selector switch
- Two lamps (Red and Green)
- PLC
- Power supply
- Connecting wires

- Set of tools
- Multimeter
- HMI
- Communication cables
- Computer station
- Flash drive

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