KLS'S GOGTE INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

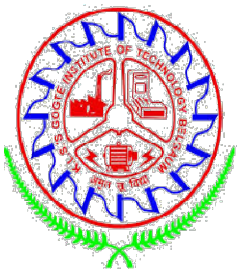CREINTORS AUTOMATION SOLUTIONS PVT.LTD.

PRESENTS

HONOR'S PROGRAM IN
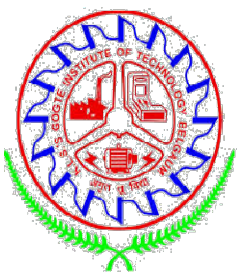# PLC PROGRAMMING

Syllabus of Course

1. Basics of PLC

2. PLC Programming

3. SCADA Programming

Latach and Unlatch Blocks

Solution - 1

By pressing the start push button the input I:0/1 will be on and hence bit B3:0/0 will be On too. Once the operator release the start button. The start button input signal will go Off but B3:0/0 will stay on because of the OTL (Latch) instruction that we have used. This bit will stay on as long as the Stop button is not pushed.
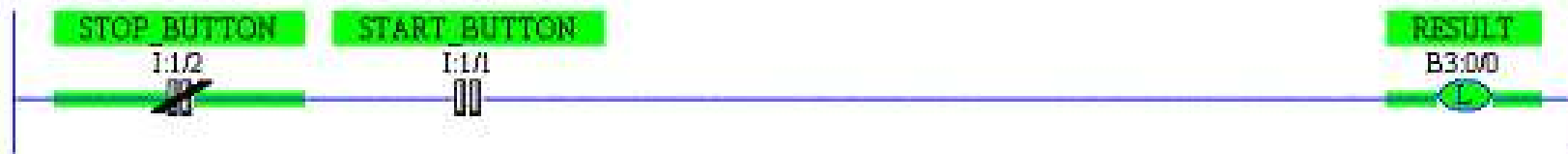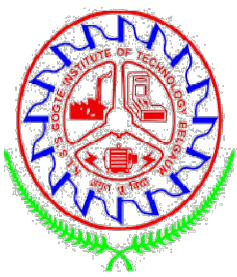

Once the stop button is pushed the rung will evaluate to true and hence the OTU (unlatch) instruction will kick in and release the bit B3:0/0.

When bit B3:0/0 is on or off; the motor will be energized or de-energized

Solution - B

Rung0: When we press on the start button the rung will evaluate to true hence the motor will be energize.

Once the start button is release it's input will go off but the motor will stay on since we have the motor as a by pass to the start button. Therefore the motor will keep running. Now, once we press the stop button. The rung will evaluate to false, and that iş how we stop the motor.
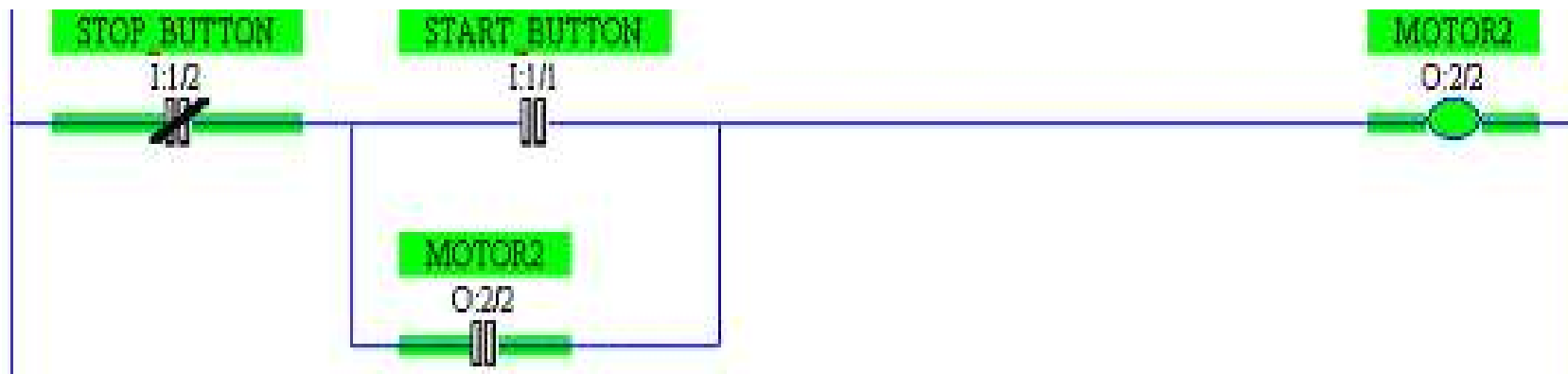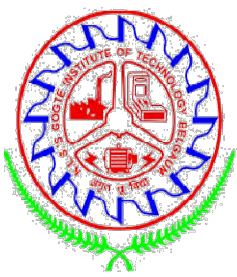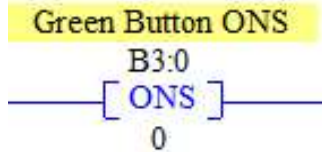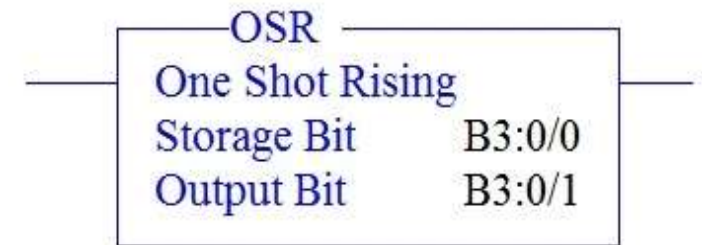
OSR - One Short Rising

The OSR instruction is a retentive input instruction that triggers an event to occur one time. Use the OSR instruction when an event must start based on the change of state of the rung from FALSE-to-TRUE.

```
Green Button ONS
      B3:0
    —[ ONS ]—
       0
```

There are two types of OSR functions available i.e.

.

One Shot Rising Instructions

One Shot Shot Falling Instructions

```
—OSR—
One Shot Rising
Storage Bit        B3:0/0
Output Bit         B3:0/1
```

```
—OSF—
One Shot Falling
Storage Bit        B3:0/2
Output Bit         B3:0/3
```
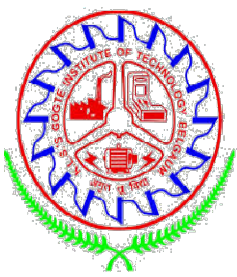
Storage Bit: This bit is to store the status of input.

Output Bit: This bit store the value when it executes the function of Block

One Shot Rising (OSR)

One shot rising - It gives single pulse at the time of going ON condition. Storage bit stores the status of input.
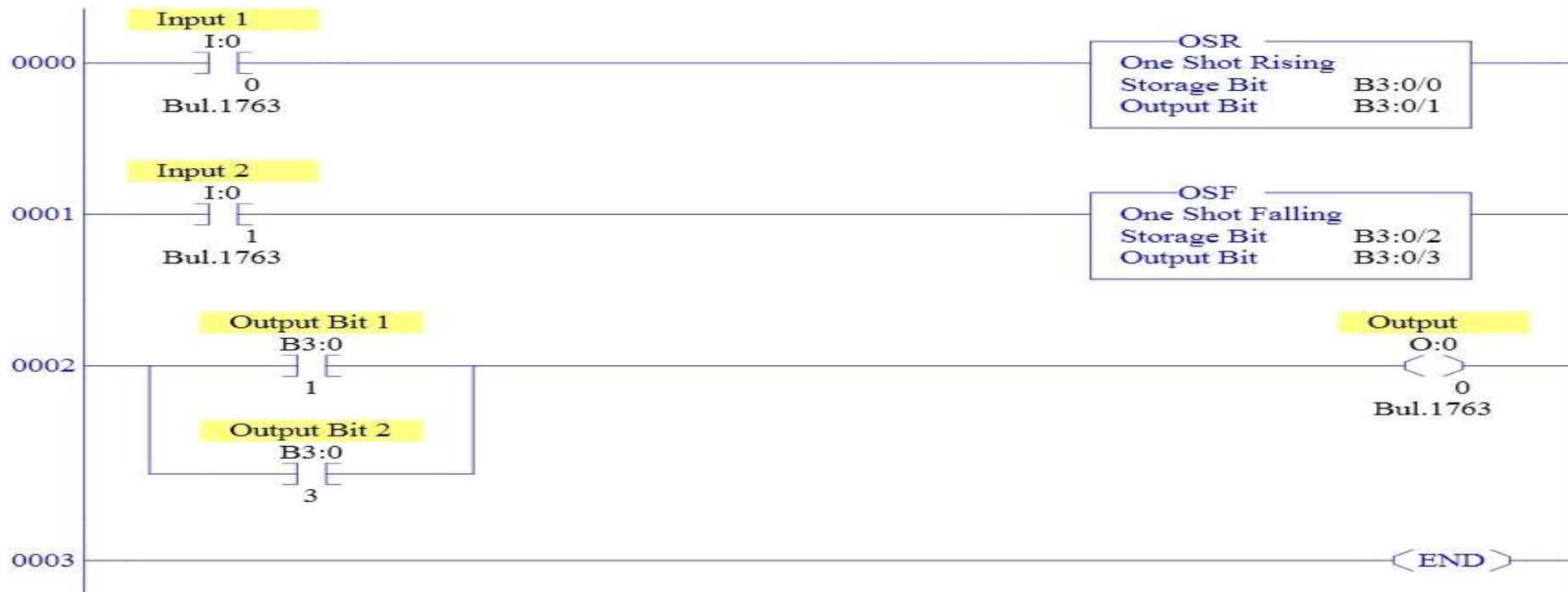
Output bit stores the status of function performed by the block.

One Shot Falling (OSF)

One shot falling gives single pulse at the time of going input's OFF condition which is connected to it. Storage bit stores the status of input. Output bit stores the status of function performed by the block.
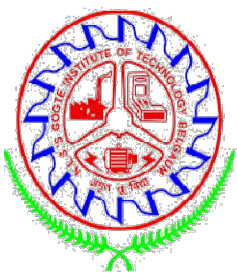
Allen Bradley PLC

RUNG 0000

Input 1 (I:0/0) is connected to OSR block. When input is turned ON, Storage bit (B3:0/0) turns 1 and output bit (B3:0/1) turns "1" for a second and goes to "0" again.

RUNG 0001

Input 2 (I:0/1) is connected to OSF block. When input is turned ON, Storage bit (B3:0/2) turns 1 and output bit (B3:0/3) remains "0".When Input turns OFF, Output bit turns "1" for a second and goes to "0" along with storage bit.

THANK YOU