

EEE 442 PROGRAMMABLE LOGIC CONTROLLERS LABORATORY
EXPERIMENT 1

LOGIC STACK OPERATIONS

Object: In this experiment basic logic operations will be introduced.

PRELIMINARY WORK

P1. Write PLC programs for each logic function given below. The program must be in the form of both ladder diagram and statement list.

- 1) $K1 = S1 * S2$
- 2) $K2 = S1 + S2$
- 3) $K3 = S1' * (S2 + K3) * S3'$
- 4) $K4 = X1 * X3 + X1 * X4 + X2 * X3 + X2 * X4$

P.2 Consider the design of a Burglar Alarm for a house. This alarm will be activated if an unauthorized person is detected by a Window Sensor or a Motion Detector. Implement this Alarm System in PLC using Ladder Diagram programming language.

EXPERIMENTAL PROCEDURE

E.1 Verify the programs which are written in P.1 using S7-1200 PLC.

E.2 Verify the program which is written in P.2 using S7-1200 PLC.