Lab 9

1.

a. Switches S2 and S3 are turned on. Will outputs PL1 and PL2 come on? Why?

No, because the MCR is not on.

b. With switches S2 and S3 still on, switch S1 is turned on. Will output PL1 or PL2 or both come on? Why?

Yes because now the MCR is on

c. With switches S2 and S3 still on, switch S1 is turned off. Will both outputs PL1 and PL2 de-energize? Why?

PL2 stays on because it was latched whereas pl1 turns off

d. With all other switches off, switch S6 is turned on. Will the timer time? Why?

0 because the mcr for it (sw5) is not on

e. With switch S6 still on, switch S5 is turned on. Will the timer time? Why?

Yes because the mcr will allow the switch that controls the timer to work

f. With switch S6 still on, switch S5 is turned off. What happens to the timer? If the timer was an

RTO type instead of a TON, what would happen to the accumulated value?

It resets

2.

**a.** Switch S3 is turned on. Will output PL1 be ener-gized? Why?

Yes, because it is direct conect

**b.** Switch S2 is turned on then switch S5is turned on. Will output PL4 be energized? Why?

No, because s2 causes it to jump down and only let s4 to work.

**c.** Switch S3 is turned on and output PL1 is ener-gized. Next, switch S2 is turned on. Will outputPL1 be energized or de-energized after turning on switch S2? Why?

It stays energized, because, because switch 3 was hit first

**d.** All switches are turned on in order according o the following sequence: S1, S2, S3, S5, S4.Which pilot lights will turn on?

Pl2 & pl3

 3.

1. Switches S1, S3, S4, and S5 are all turned on. Which pilot light will *not*be turned on? Why?

PL3 because sw 2 sends to sub which would allow access to pl 3

1. Switch S2 is turned on and then switch S4 is turned on. Will output PL3 be energized? Why?

Yes because it is sent into the sub allowing access to pl3

1. To what rung does the RET instruction return the program scan?

It returns right after