

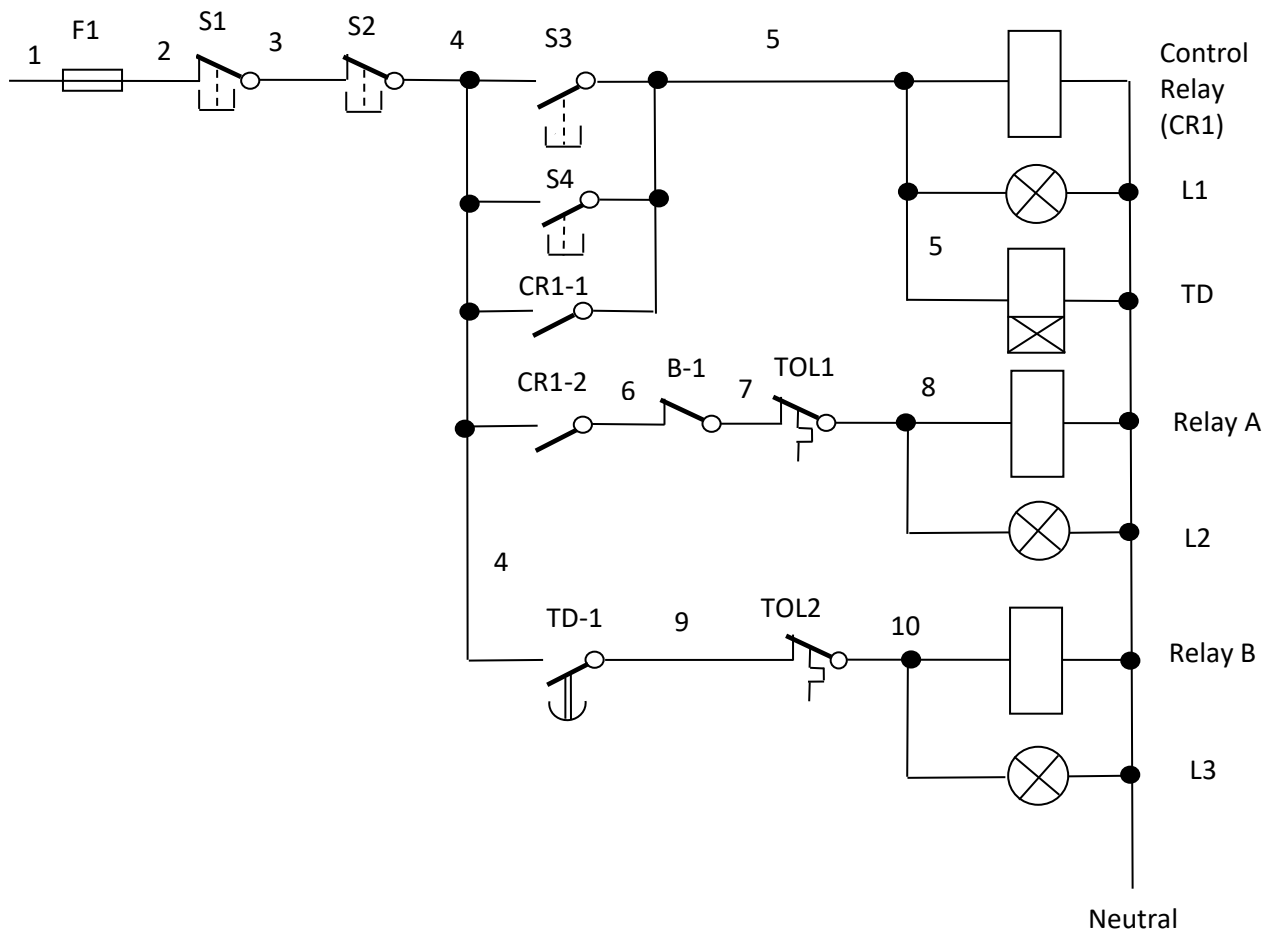
UEENEEE107A Final Tutorial

Question 1:

Equipment:

- 2 x N/O pushbuttons
- 2 x N/C pushbuttons
- 2 x thermal overload units
- 1 x 24 Volt plug in relay and panel
- 2 x 24 volt contactors with 4 x N/O contacts
- 1 auxiliary contact block with at least 1 x N/C contact
- 1 x 24 volt "On Delay" timer
- 1 x fuse panel
- 1 x LED panel
- Leads

Explain the operation of given circuit



S1/ S2- Magnetic Circuit Breakers Normally Open

S1+S2 close----S3 or S4 closes----Control relay CR1 is energised. Lamp L1 indicates it. Then the contact CR1-1 is closed by Control Relay CR1

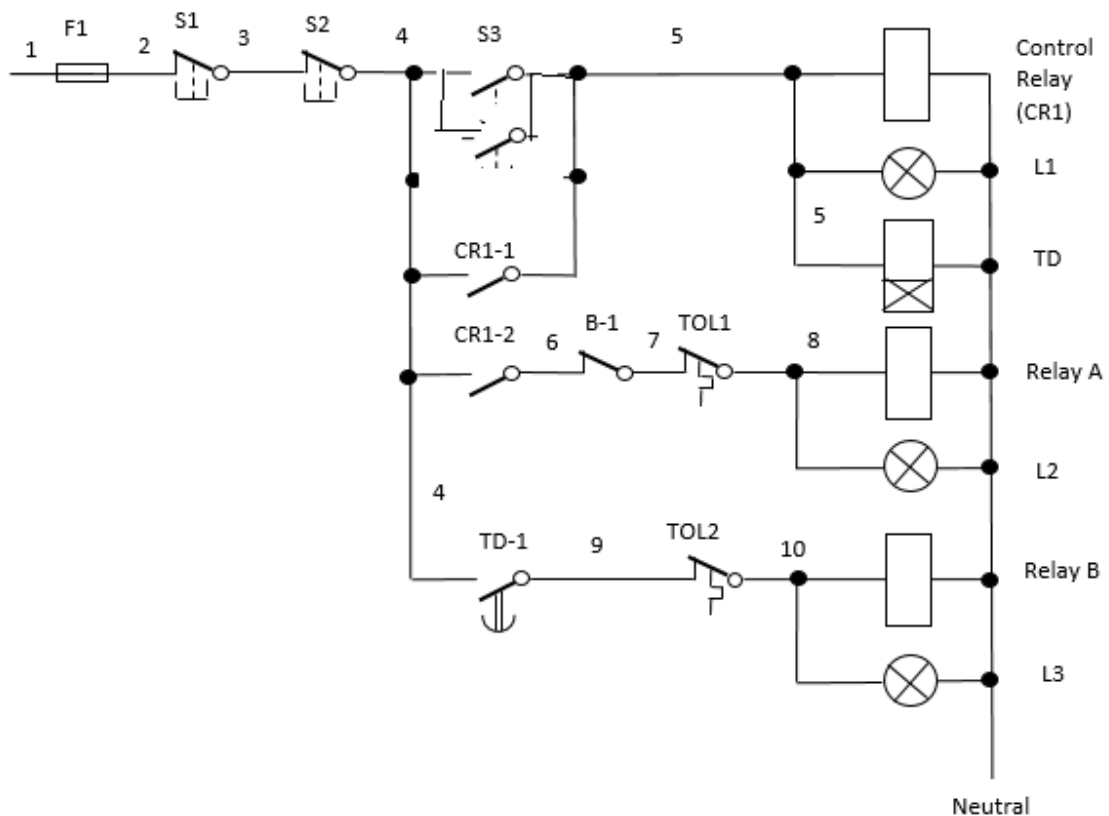
In the mean time, the contact CR1-2 is closed by Control Relay CR1
Relay A is energized. It is indicated by lamp.

In the mean time, Time delay coil TD is also energized

Time delay coil TD closes the Time delay contact TD1
Closure of TD1 energizes Relay B. It is indicated by lamp.

B1 is normally close contact. TOL1 and TOL2 are thermal overloads which can cut off the current flow to Relay A and B

2. Add a double pole Jog button to the circuit of the control relay and test the circuit.



3. What is the purpose of the contact CR1.1 connected in parallel with S4?

It is alternative contact for S4 . It is closed by Control Relay so that S4 will not need to be pressed for all time.

4. What type of timer is shown in the circuit?

Magnetic

5. Explain the purpose of the N/C contact “B-1” in the circuit

To switch off the current to Relay A

6. If the timer fails to energise what will be the effect on the circuit

Relay B will not be energized.

7. What do pushbuttons S1, S2, S3 & S4 form?

S1,S2—Normally close S3/S4 Normally open

8. When the timer is de-energised after having been energised, explain how the timer contact will react.

TD1 will wait a pre-set time and then it will open