K.J. Somaiya College Of Engineering

Vidyavihar (E) Mumbai-77

ELECTRICAL WIRING

JOB SHEET

NAME:- 160102 Arya Nair ROLL NO:- 16010421063 BATCH:- G3

NAME OF EXPERIMENT/JOB:- Godown Wiring

TOOLS AND EQUIPMENTS:-

MCB	230V, 5A	1
One-way Switch	SPST, 5A	1
Two-way Switch	SPDT, 5A	2
light bulb	60W	3

PROCEDURE:-

- Turn of all the main breaker to ensure main supply is switched off.
- Connect all switches to earthing/grounding
- Connect neutral wire from MCB directly in all the three
- Connect the line wire to the first terminal of SPST switch.
- Connect SPDT switch middle terminal to secondry terminal of SPST
- Connect the upper terminal of first SPDT switch to the first lamp
- Connect lower terminal of first SPDT switch to middle of second SPDT switch.

• Connect upper and lower terminals of second SPDT switch to second and third lamp respectively

SPST → single pole single throw

SPDT → single pole ~~single~~ double throw

Working –

It is a linear sequence of switching i.e. when a person enters the first room or position, all lighting points are switched off as the first SPST switch is at OFF position.

• Switch on SPST, first lamp is switched on.

• Switch on the first SPDT, second lamp switch on and previous one switch off.

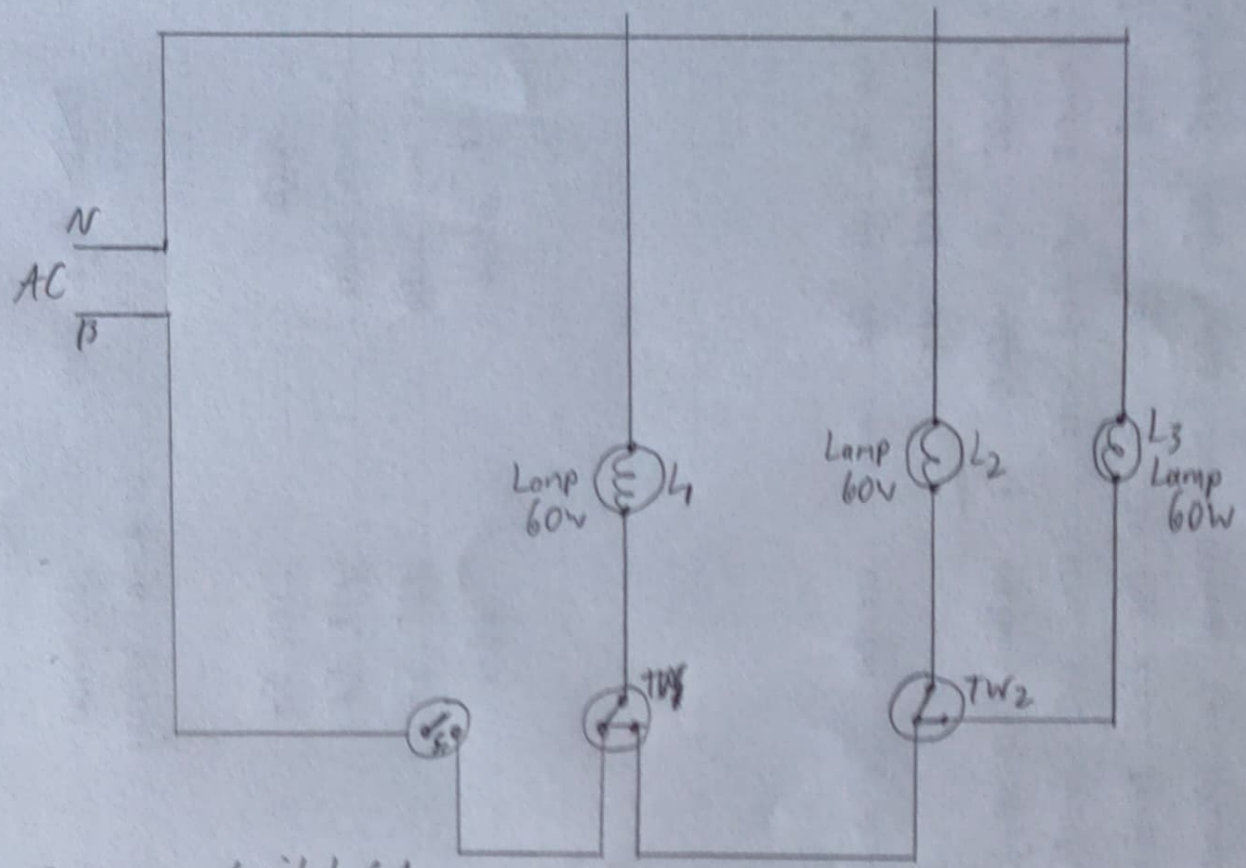
• Switch on second SPDT, third lamp switch on and previous ones switch off.

Similarly when we, switch off last i.e second SPDT, the second lamp switch on and third lamp switch off and so on until it reaches to the first SPST switch and whole circuit can be switched off by turning it off.

USE:-

Godown wiring circuit is needed in tunnel like structures, long passages, big godown having lots of rooms. It was the best choice to save electricity and energy consumption where only one load i.e. light bulb can be operated at a time. Nowadays, as CFL and LED bulb which consumes low energy, this type of wiring is avoided due to its complexity, ignoring power consumption.

Arya Nair 160104210633



S_1 - One way switch 6A
TW_1, TW_2 - Two way switch

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ELECTRICAL WIRING

JOB SHEET

NAME:- Arya Nair ROLL NO:- 16010421063 BATCH:- 6n3

NAME OF EXPERIMENT/JOB:- House wiring

TOOLS AND EQUIPMENTS:-

Lamp - 60W

Regulator -

Bell push

one way switch - 53

Two way switch.

PROCEDURE:-

- Turn off the main breaker to ensure the main supply is switched off.
- Connect the neutral wire directly from CB to first therminal of electric bell or buzzer.
- Connect all the push button switches lower terminal to the line wire from related circuit breaker.
- Connect the upper terminals of push button switches to the first terminal of indicator lamps or bulbs
- Connect the second terminal of all indicator lights or bulb through a common wire and wire them to the second terminal of electric bell.

- Do the proper earthing/grounding ~~accord~~ according to your local area code.

Working

The bell push circuit used in houses where bell is assigned number of lamps and configured in a panel. The indicator lamp and bell are controlled from different location by push button switches

USE:-

This circuit is used when bells and buzzers are needed to control from a different location.

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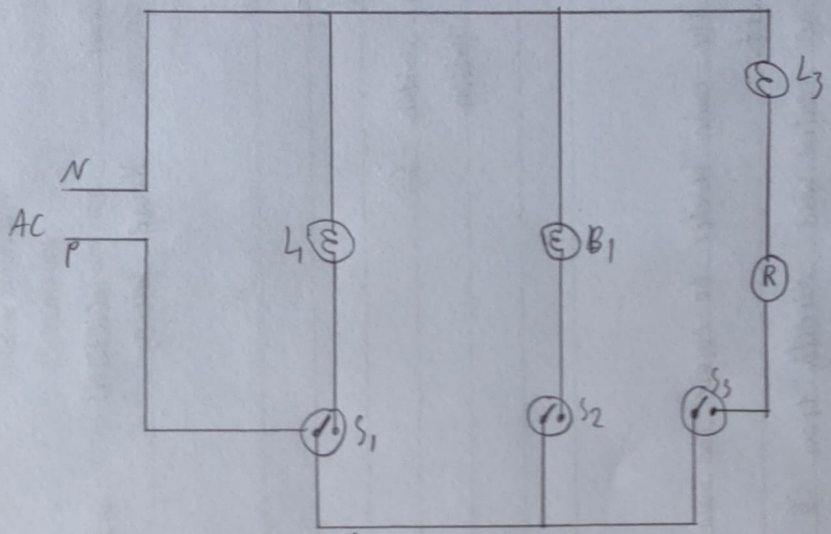

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ELECTRICAL WIRING

JOB SHEET

NAME:- Arya Nair ROLL NO:- 16010421063 BATCH:- G3

NAME OF EXPERIMENT/JOB:- Staircase wiring

TOOLS AND EQUIPMENTS:-

Ammeter

Voltmeter (0-500V)

lamp (60W)

Two way switches

PROCEDURE:-

The first and second pole of SPDT switches, is connected to the corresponding first and second pole of the SPDT switches. That is similar poles of both two switches are connected to each other. The phase of supply line is connected to the common pole of a switch. And the phase line to the load is taken from common pole of next switch. It makes an arrangement that to close the circuit both switch should be in same position in order to make two common poles in contact to acheive a closed circuit. Changing the on and off of a single switch can determine wether the circuit is closed or open. Thus in staircase wiring, we can control the load

from both positions.

Working

Suppose you want to off the ~~bridge~~ bulb from the switch at top of stairs, simply switch off the switch then circuit will break and bulb will be off. You can off the light from any of the two switches. The way this works is that the circuit requires both switches in the same position a the other. This closes the circuit thus making bulb glow.

USE:-

- The main purpose of two way switching connection is to connect and control AC appliances and equipment from two separate locations.
- It is mostly used in staircase wiring where a light bulb can be controlled from different places, no matter you are in upper or lower position of stair.
- It is also used in rooms having large area which has two entry and exit gates.
- It is used to control any electrical appliances or equipment like fan light bulbs etc. from two different places.

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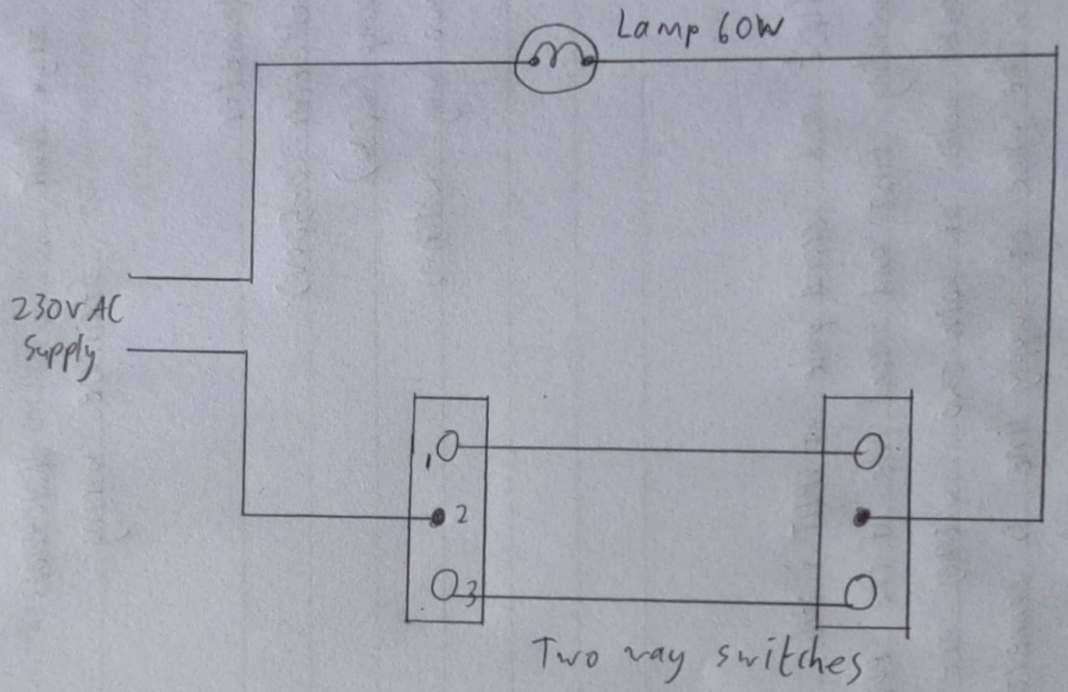

Conclusion -

This ~~assig~~ simple learning guide on electrical wiring systems. Different types of electrical wiring factors to consider while selecting a wiring design.