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Experiment : 1

Object : To study about the switch board and wiring of various appliances and also draw a circuit diagram of switch board containing fan, fan regulator tubelight, bulb and indicator.

Apparatus Required :

| S No. | Apparatus Name | Rating | Quantity |
|-------|--------------------|--------|----------|
| 1 | Wire | Green | 100m |
| | | Black | 100m |
| | | Red | 100m |
| 2 | Tubelight | 40W | 1 |
| 3 | Fan with regulator | 60W | 1 |
| 4 | Bulb | 100W | 1 |
| 5 | Indicator | | 1 |
| 6 | Socket outlet | 1kW | 1 |
| 7 | Switch | 100W | 4 |
| 8 | Switchboard | | 1 |

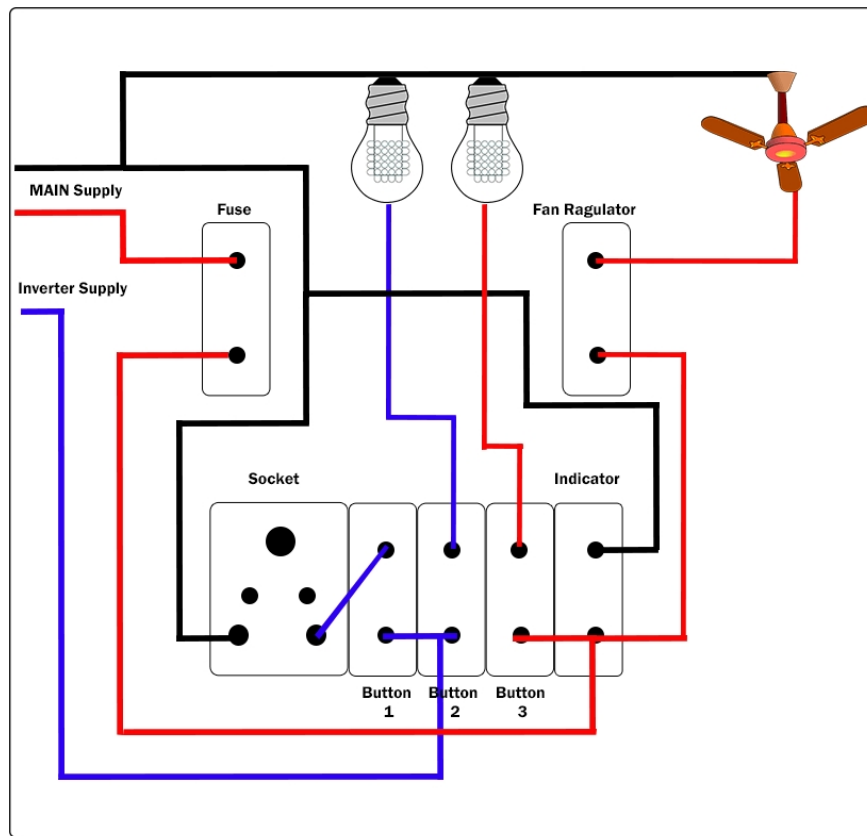
Theory :

Normally domestic wiring used in houses, small commercial areas etc. Domestic supply is available on 230 to 240 volts and 15 amperes. Normally when construct the domestic wiring houses then the supply is taken from energy metre. Because supply is available on metre fan and distribution poles and the supply is distributing all over the appliances from metre by through distribution board is a device that directs electricity from one or more source. it is an assembly of one or more panels each of which contain switches that allows electricity to be directed.

Normal distribution on board for switch board contains indicators ,switches etc. Some lines on the switch board we show a protection fuse. Indicators show that the line continuously and socket is useful to connect external appliances which uses plug. There are few types of socket 2 pin 2A socket and 2 pin 5A socket.

3 pin 5A, 3 pin 15A, 6 pin 25A and more extensive rating of sockets available in the market. Sockets are made up of bakelite and procline. Switch board also contains switches which is used for making circuit or not. Mostly switches are available in to a 5A, 10A ,15A and 25A rating. In switches internally screw and strips nut and bolts are made by brass and similarly in socket. Internal connection made on brass Bolt.

When we construct domestic wiring we must follow the rules that are face is most taken as red wire similarly neutral wire is black in colour and Earth wire is green in colour. In socket Earth wire is more thicker than phase and neutral wire because it contains low resistance path.



Procedure :

For making domestic wiring for one switch board phase wire is connect with common copper wire for all the switches any type phase is available on the terminal of switch and the second wire is taken from the upper terminal of switch and it is direct connect with the appliances as phase wire outlet wire of appliances is called neutral. It is the black wire that is neutral wire of the appliances is common. neutral wire projector at the indicators neutral terminal all terminal must be connect with the earth wire and Earth wire must be connected at a thing domestic wiring with on switch board is shown in figure.

Result :

Wiring of various appliances on switchboard successfully studied.