



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)



COIMBATORE-35

**Accredited by NBA-AICTE and Accredited by NAAC – UGC with A+ Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

**COURSE NAME: 19EET101/BASIC ELECTRICAL AND ELECTRONICS
ENGINEERING**

I YEAR / II SEMESTER

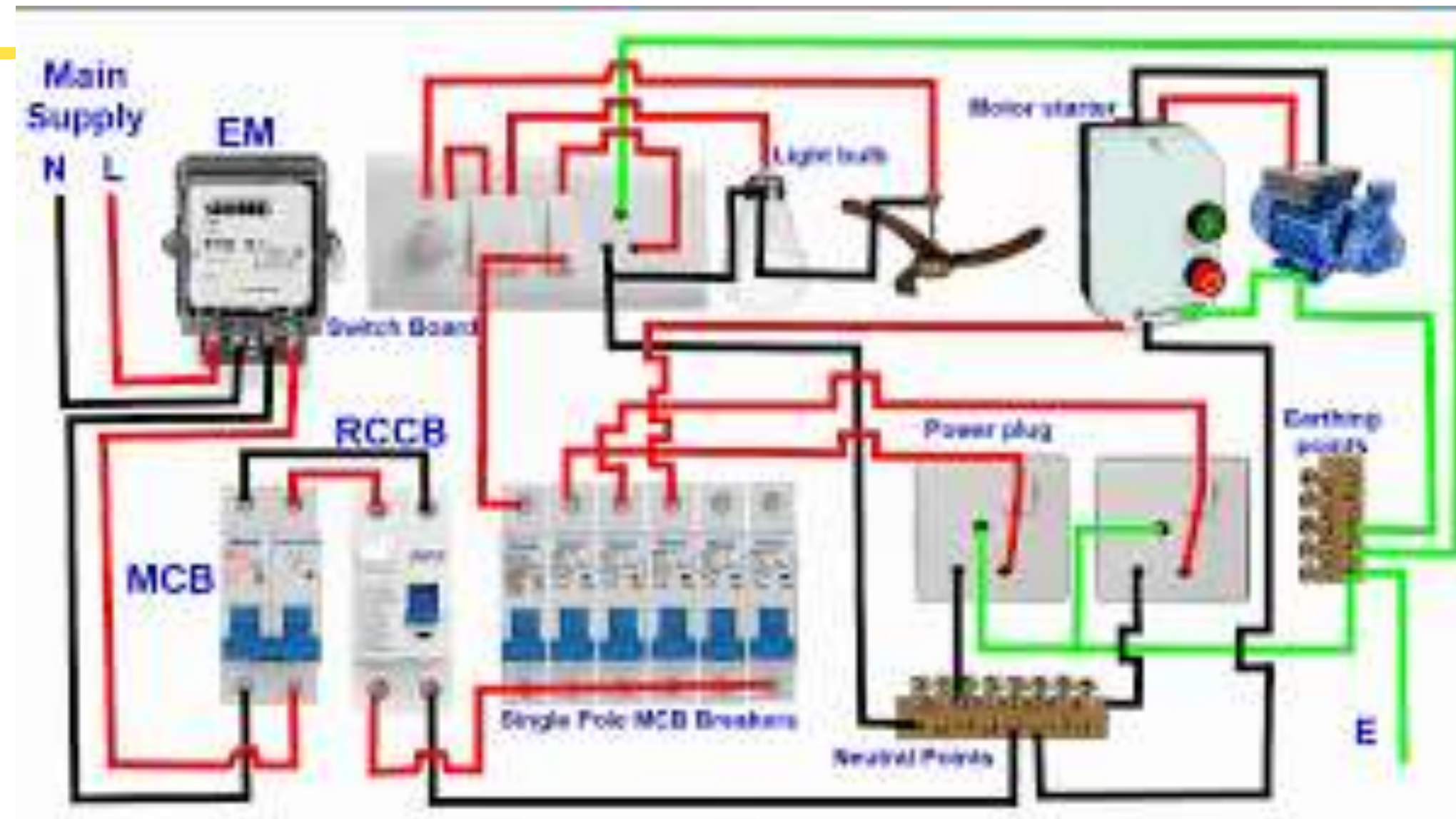
Unit III – WIRING, GROUNDING AND SAFETY

Topic : Types of Wiring





GUESS THE TOPIC NAME...





TYPES OF WIRING

- The type of wiring to be selected for a particular place of use is based on several factors such as **durability** , **mechanical protection** , **appearance** , **environmental condition etc.** The various type of wiring in practice are as follows:
 - Cleat wiring
 - Wooden casing and capping wiring.
 - Batten wiring
 - Conduit wiring.
 - Lead sheathed wiring.



TYPES OF WIRING

- There are additional types of **conduit wiring according to Pipes installation** (Where steel and PVC pipes are used for wiring connection and installation).
 - **Surface or open Conduit type**
 - **Recessed or concealed or underground type Conduit**



SURFACE OR OPEN CONDUIT TYPE

- If conduits installed on roof or wall, It is known as surface conduit wiring. in this wiring method, they make holes on the surface of wall on equal distances and conduit is installed then with the help of rowel plugs





CONCEALED CONDUIT TYPE

- If the conduits is hidden inside the wall slots with the help of plastering, it is called concealed conduit wiring. In other words, the electrical wiring system inside wall, roof or floor with the help of plastic or metallic piping is called concealed conduit wiring. Obviously, It is the most popular, beautiful, stronger and common electrical wiring system nowadays.
- Following conduits are used in the conduit wiring systems
 - Metallic Conduit
 - Non-metallic conduit



Concealed Conduit wiring



METALIC CONDUIT WIRING

- Metallic conduits are made of steel which are very strong but costly as well.
- There are two types of metallic conduits.
 - **Class A Conduit:** Low gauge conduit (Thin layer steel sheet conduit)
 - **Class B Conduit:** High gauge conduit (Thick sheet of steel conduit)





NON - METALIC CONDUIT WIRING

- A solid PVC conduit is used as non-metallic conduit now a days, which is flexible and easy to bend.





ADVANTAGES

- It is the **safest wiring system** (Concealed conduit wiring)
- **Appearance is very beautiful** (in case of concealed conduit wiring)
- **No risk of mechanical wear & tear** and fire in case of metallic pipes.
- **Customization** can be easily done according to the future needs.
- Repairing and **maintenance is easy**.
- There is **no risk of damage** the cables insulation
- It is **safe from corrosion** (in case of PVC conduit) and risk of fire.
- It can be used even in **humidity , chemical effect and smoky areas**.
- **No risk of electric shock** (In case of proper earthing and grounding of metallic pipes).
- It is **reliable and popular** wiring system.
- Sustainable and long-lasting wiring system.



DISADVANTAGES

- **It is expensive wiring system** (Due to PVC and Metallic pipes, Additional earthing for metallic pipes Tee(s) and elbows etc.
- **Very hard to find the defects** in the wiring.
- **Installation is not easy** and simple.
- **Risk of Electric shock** (In case of metallic pipes without proper earthing system)
- **Very complicated to manage additional connection** in the future.



SUMMARY

Various types of Wiring



KEEP
LEARNING..
Thank u

SEE YOU IN NEXT CLASS