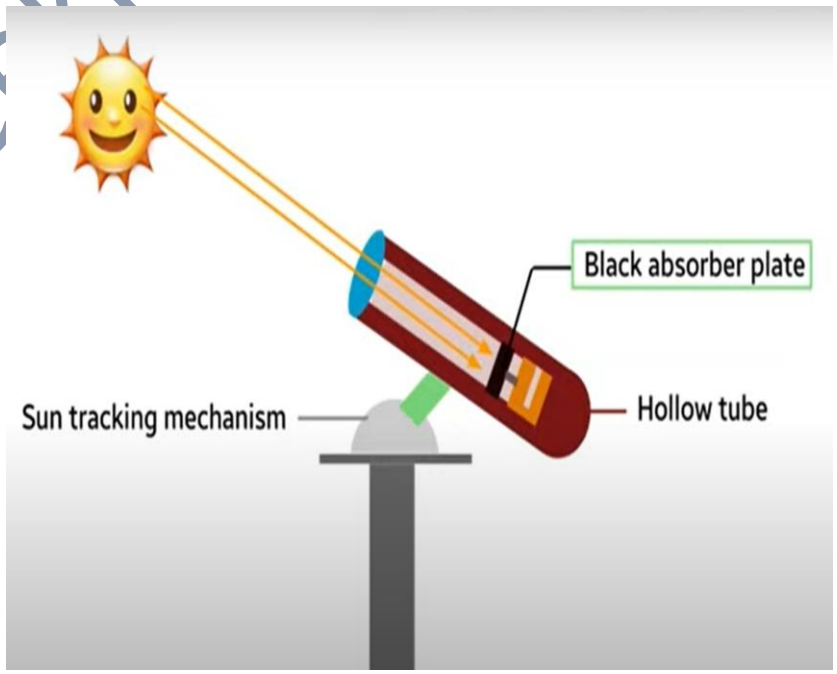
2 year B.S.C (Semester I I) →Solar Energy

Q: Write about pyro heliometer (pyrheliometer) and its working?

Ans:

- Pyro heliometer is a instrument which is used to measure the direct solar radiation.
- Pyro heliometer has a tracking module which tracks the sun continuously.
- It is used to measure the weather condition and climate changes
- It is majorly used to climatology studies purpose.



♦ (Draw the diagram for better marks)

- ❖ It have protecting lens which is for protect the inner parts of Pyro heliometer.
- ❖ Direct solar radiation passes through the lens.
- ❖ In the depth of tube have black absorber plate. Main purpose of plate is absorbing the heat from solar radiation.
- ❖ In the tube have thermocouple is a type of sensor which convert heat energy into electrical signals.
- ❖ Thermocouple is connect the tracking mechanism.
- ❖ it is used in scientific meteorological studies
- ❖ pyro heliometer is used to observe the climate
- ❖ pyro heliometer is used to test the research of material
- ❖ pyro heliometer is used to estimate the efficiency solar system.

ADVANTAGES:

- Very low power consumption in pyro heliometer.
- It can monitor the direction of sun by tracking mechanism.
- Stability of pyrheliometer is high.
- It have simple contruction.

DIS-ADVANTAGES:

- Main disadvantage is pyro heliometer only measures the direct solar radiation. It can’t measure the diffuse solar radiation.