> Date

Govt. College ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun

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B.Sc, Part-II Sub, 09/09/2019, Physics Notes.

Paper-II, Group-B, (Current Electricity, Modern physics)

Topic:- Peltier Effect:

In 1834 Jean Peltier, a french watch maker, descovered a second thermoelectric effect. of a current flows through a circuit containing junction of two dis-similar metals, it lead to an absorption or a liberation of heat at the junction. Heat is given out or absorbed defending on the pairs of metals. and the direction of the current.

For a copper constenton thermocouple if the current flow at the junction is form copper (+) to constanton (-). heat is absorbed. On changing the direction of the current, heat will be liberated at the seme junction, showing that the phenomenon is reversible.

Date

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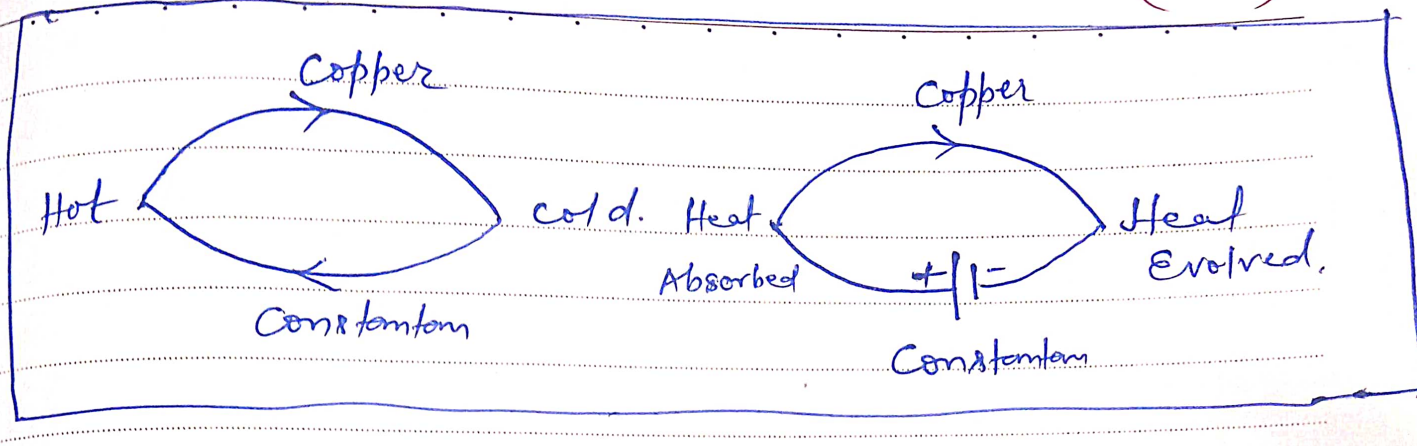

The amount of heat ϕ liberated to the surrounding in order that the junction may be kept at the same temp. is proportional to the current I. passing through the junction

$$\phi = \pi_{AB} I.$$

Where the constant π_{AB} is called the Peltier coefficient. The Peltier coefficient depends on the pair of materials A and B of the junction and also on the junction temperature.