

# SATISH BROTHERS

#4309/20, Marble House, Punjabi Mohalla

Ambala Cantt- 133001

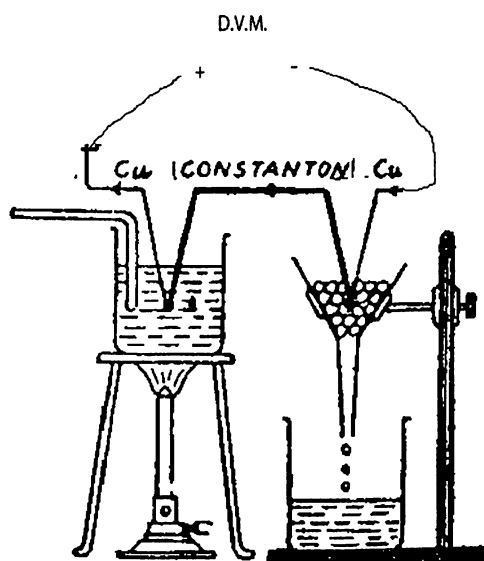
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**Aim :** To plot a graph between the difference of temperature of the two junctions & the thermo e.m.f. for a copper constantan thermocouple using digital millivoltmeter

**App.:** Copper constantan thermocouple, digital milliVoltmeter, copper pot, PVC beaker ,heater

## Procedure

1. Clamp the thermocouple in a stand. Dip one junction in water bath or sand so that it does not touch the side or bottom of the containing vessel & immerse the other junction in washed & pounded ice placed in a



Funnel held in a stand with a beaker underneath. Connect the free end of the portion of copper wire at the hot junction to the millivoltmeter of red terminal, copper wire at the cold junction to a black terminal.

2. Heat the water bath so that temperature became at 100 degree approx.
3. Switch off the heater & allow the temp. to fall. keeping the temp. Constant at about 90 degree see milli voltmeter reading. Similarly find the milli voltmeter reading at temp. 80,70 degree & so on. The milli voltmeter reading shows the e.m.f. directly at these temperatures.
4. Plot a graph between temp. of hot junction & thermoelectric e.m.f. in micro volts/milli volts.

**Observations:**

S.No.	Temp.	E.M.F. exl microvolts
1		
2		
3		
4		