

* Coefficient of viscosity by capillary flow method :-

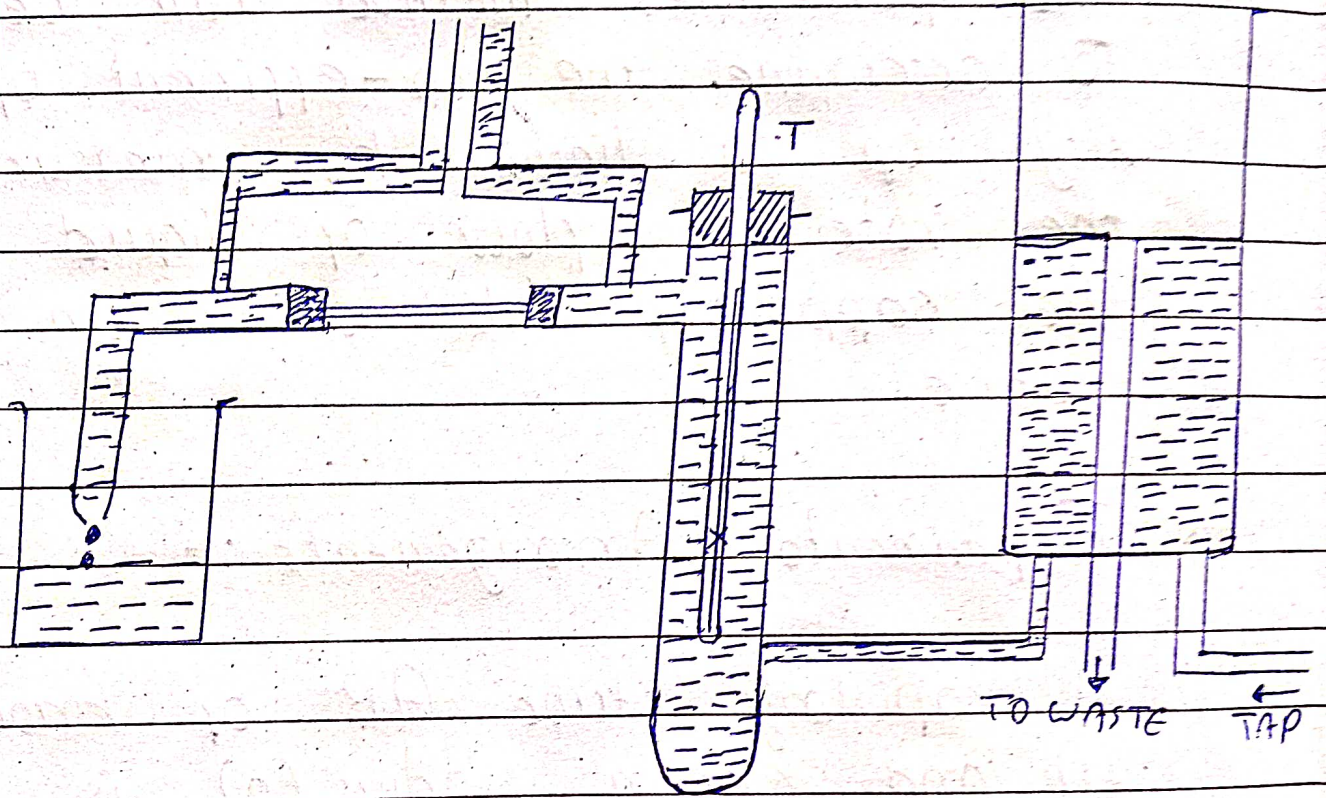
The poiseuille's method can be used to determine the co-efficient of viscosity of a liquid by measuring the rate of flow of liquid through the capillary tube at room temperature.

* Experimental Arrangements :-

A capillary tube AB of known length (l) and known radius (a) is fitted horizontally to the bottom of a container having an overflow arrangement which maintains the constant pressure difference between the ends of the tube AB.

The volume of the liquid flowing through the capillary tube is

measured by collecting the liquid in a measuring cylinder in a certain interval of time.



As the co-efficient of viscosity depends upon the temperature, the temperature is accurately recorded.

For more accurate result, the corrected Poiseuille's formula may be used.

$$\eta = \frac{\pi \pi a^4}{8Q(1+1.64a)} \cdot \frac{Q\rho}{8\pi(1+1.64a)}$$