

- e) Mercury has low specific heat, so, it requires only a very small amount of heat to attain the required temperature.
- f) Since mercury is bright and so it can be easily seen.

### Gas Thermometer :

#### (a) Constant Volume Gas ( $H_2$ ) Thermometer :

At const. volume the pressure of an ideal gas of given mass is directly proportional to its temp.

$P_0$ ,  $P_{100}$  and  $P_t$

$$t^{\circ}C = \frac{P_t - P_0}{P_{100} - P_0} \times 100 \quad \text{--- (3) ---}$$

#### (b) Constant pressure Gas Thermometer : $P = \text{const}$ $V \propto T$

$V_0$ ,  $V_{100}$  and  $V_t$

$$t^{\circ}C = \frac{V_t - V_0}{V_{100} - V_0} \times 100 \quad \text{--- (4) ---}$$

### 3. Platinum Resistance Thermometer :

Thermometric property  $\rightarrow$  resistance of platinum wire