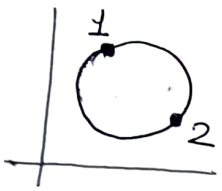
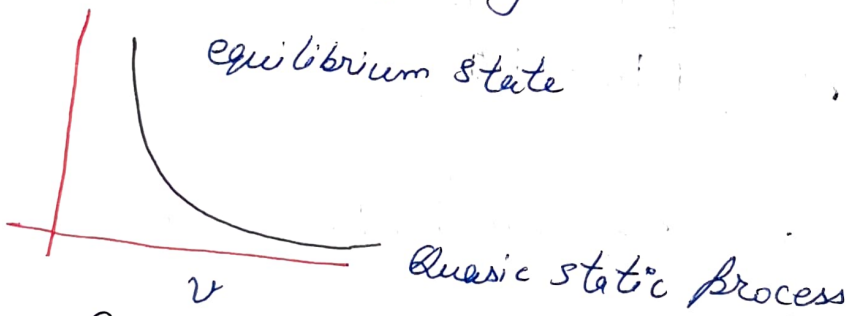
CYCLIC PROCESS → Those which initial & final position are same are called to be cyclic process



QUASI - Static Process :- In infinity slow process it is curve which is occured by joining different equilibrium state. It is reversible and imaginary process



Imaginary & Reversible Process

Thermo - equili :- There can be know spontaneous change in any macroscopic property system exist equibrium state. A system will in state of thermo equili if the condition for the following three type of equilibrium are satisfied.

1) Mechanical eq
2) Chemical eq
3) Thermal eq

1) MECHANICAL EQ :- In absence of any unbalanced force within system and itself and also between system and sourcing system said to be mechanical eq.

2.) CHEMICAL EQ. :- If there is know chemical reaction for transfer of matter from one part of system to another such as diffusion or solution the system is said to exist chemical equilibrium.

3) Thermal Equilibrium :- If there is know spontaneous change is any property of system (temperature) system is said to exist in thermodynamics equilibrium.

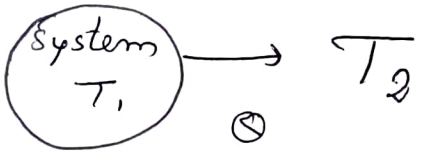
Thermometric Property :- A property which we use to find temperature of substance is known as thermometric property.

Different type of thermometer

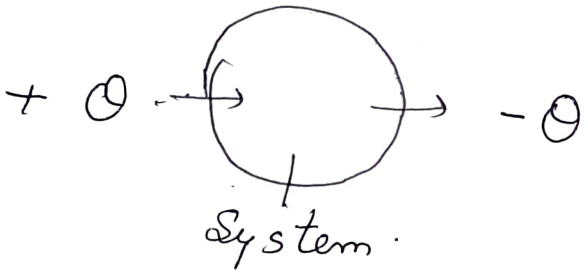
1) Constant volume thermometer - Pressure
2) Constant pressure thermometer - Volume
3) Electro magnetic thermometer - Resistance
4) Thermocouple thermometer - EMF
5) Ordinary thermometer - 1- Length
2- Volume

Heat :- Heat is the form of energy that is transfered (without transfer of mass) across boundary of system because of temperature different b/twen the system and its ~~surrounding~~ surrerunding and its always from higher temp. to lower temperature.

$T_1 > T_2$ =



Sign Convention



Q = Heat = Joule = Calorie.
S.I C.G.S

1 calorie = 4.2 Joule or N/m

Work :- Work is defined as a energy transfered with transfer of mass across the boundary of system because of an intensive property difference other than temperature existing between or the system and the surrerunding

UNIT of WORK is N-M or Joule

Work is high grade energy and heat is low grade energy.

Low grade = Nuclear Reactor.
High grade :

Zeroth law of thermodynamics

According to this law, if there are three bodies which are attached with each other named - A, B, & C. If body 'A' and 'B' are in thermal equilibrium and body 'B' and 'C' are also in thermal equilibrium then after some time 'A' and 'C' are also comes in thermal equilibri.

Example :