

Thermodynamics

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Thermo + Dynamics

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Greek word → (Heat) (Motion and forces acting on objects)

Defn:

Thermodynamics is the branch of physics and chemistry that studies the relationships between heat, work, temperature and energy and how they are interconverted and transferred within systems and surroundings.

or

Thermodynamics is the study of energy changes and relationships between heat, work and temperature in chemical reaction and physical state changes.

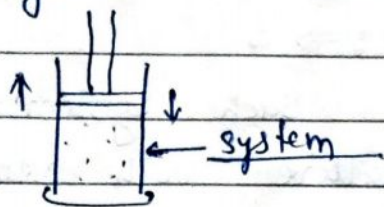
THERMODYNAMICS (ताप-गतिकी)

System and Surrounding :→

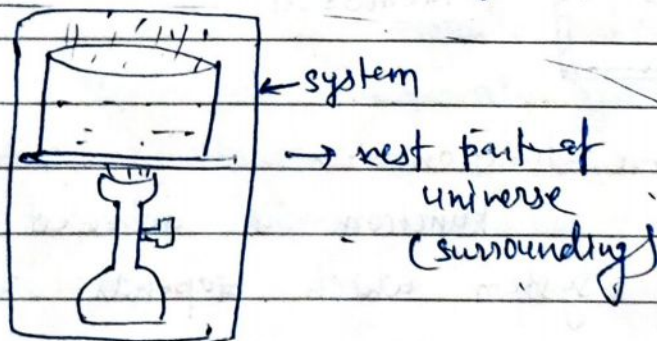
System :→ The place where any work is performed or any reaction is carried out, is called system.

Consider, any gas is allowed to expand or to compress in a cylinder, in that case, that cylinder is called system.

In a pot water is boiled, that pot is called system.



Surrounding :→ The rest part of the universe, except system is called Surrounding.

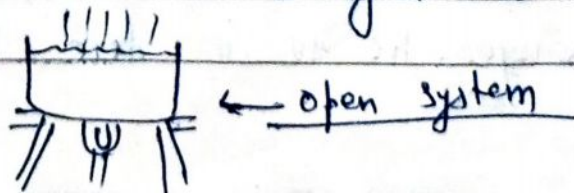


There are three kinds of System :→

(i) Open system (ii) closed system (iii) Isolated system

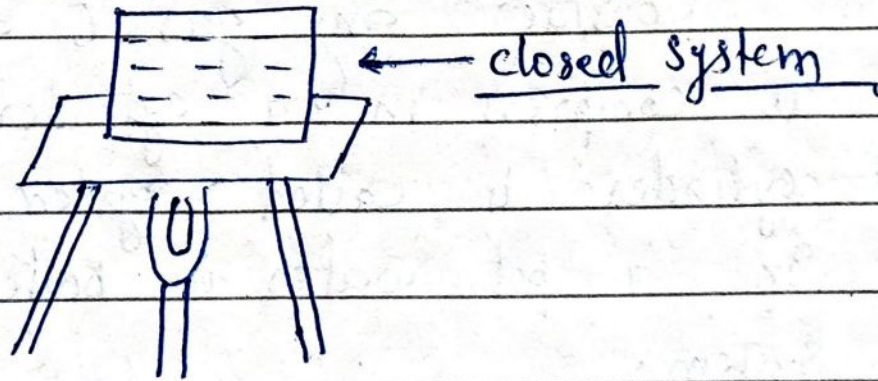
(i) Open system :→

Such system in which mass and temp. both are changed is called open system.



(ii) Closed System :->

Such system in which mass remains constant but temperature changes, is called closed system.



(iii) Isolated System :->

Such system in which mass and temperature both remain constant, is called isolated system.

