



Difference between heat & Temperature

Temperature is the measure of the amount of energy possessed by the molecules of a substance [macroscopic]. It manifests itself as a degree of hotness and is used to predict the direction of heat transfer.

Heat is the energy in transit. Spontaneously, heat flows from a hotter body to a colder one.

Difference between Thermodynamics & Heat Transfer

Thermodynamics tells us:

- a) How much heat is transferred (SQ).
- b) How much work is done (SW)
- c) Final state of the system.

Heat transfer tells us:

- a) How (with what modes) SQ is transferred.
- b) at what rate SQ is transferred.
- c) Temperature distribution inside the body.



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DEPARTMENT OF MECHANICAL ENGINEERING

16ME306/ Heat and Mass Transfer – UNIT I - CONDUCTION

Topic - Basic Concepts – Mechanism of Heat Transfer



Mechanism of heat transfer:

Heat transfer is classified into various mechanisms, such as

thermal conduction,

thermal convection,

thermal radiation, and transfer of energy by phase changes.