

Use of Steam Tables in Thermodynamics

Steam tables provide data on the thermodynamic properties of water and steam, such as temperature, pressure, enthalpy, and entropy.

What is meant by Refrigeration systems?

Refrigeration systems are thermodynamic systems designed to remove heat from a space or substance to lower its temperature, typically for cooling purposes.

Air compression and Air absorption refrigeration cycles

Air compression refrigeration cycles use mechanical compression to raise the pressure and temperature of air, while air absorption refrigeration cycles use a refrigerant-absorbent pair to achieve cooling through heat absorption and release.

What is meant by heat transfer thermodynamics?

Heat transfer in thermodynamics refers to the exchange of thermal energy between systems or between a system and its surroundings.

Modes of heat transfer

The modes of heat transfer are conduction (through direct contact), convection (through fluid movement), and radiation (through electromagnetic waves).

What is meant by conduction heat transfer through wall?

Conduction heat transfer through a wall refers to the process of heat flow from one side of a solid wall to the other through direct molecular interaction and vibration without any fluid motion involved.

Internal Combustion Engines (ICE)

Internal combustion engines are machines that convert the chemical energy of fuel into mechanical energy through combustion within a confined space, typically powering vehicles and machinery.

Types and components of petrol and diesel engine:

Petrol engines are spark-ignition engines, while diesel engines are compression-ignition engines. Both have components such as cylinders, pistons, valves, crankshaft, and fuel injection systems.

Air standard cycles; otto, diesel and combined cycle:

Air standard cycles are idealized thermodynamic cycles used to analyze the performance of internal combustion engines. The Otto cycle is used in spark-ignition petrol engines, the Diesel cycle in compression-ignition diesel engines, and the combined cycle combines both cycles for improved efficiency.