

TEACHING LEARNING MATERIAL

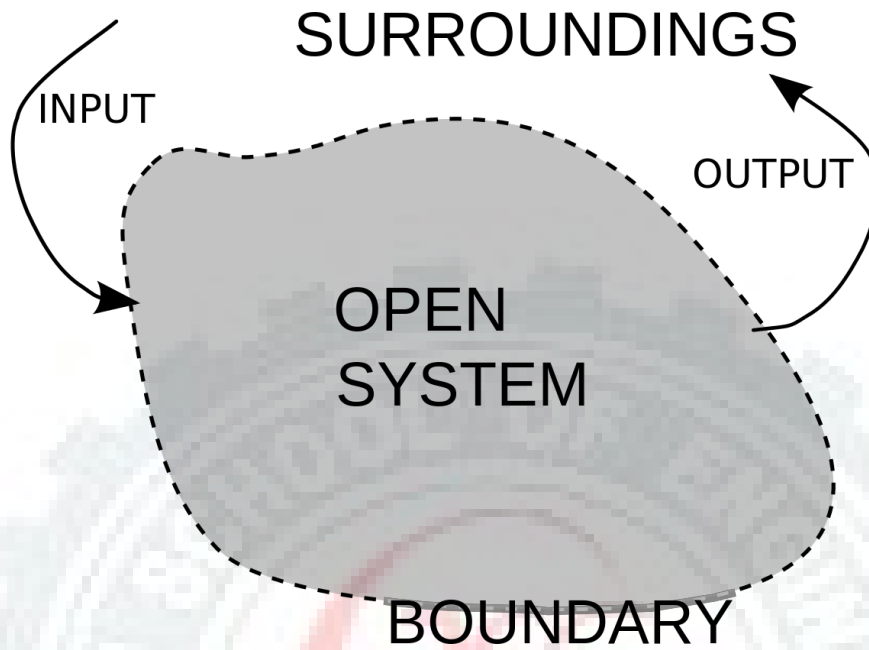


BRANCH: MECHANICAL ENGINEERING

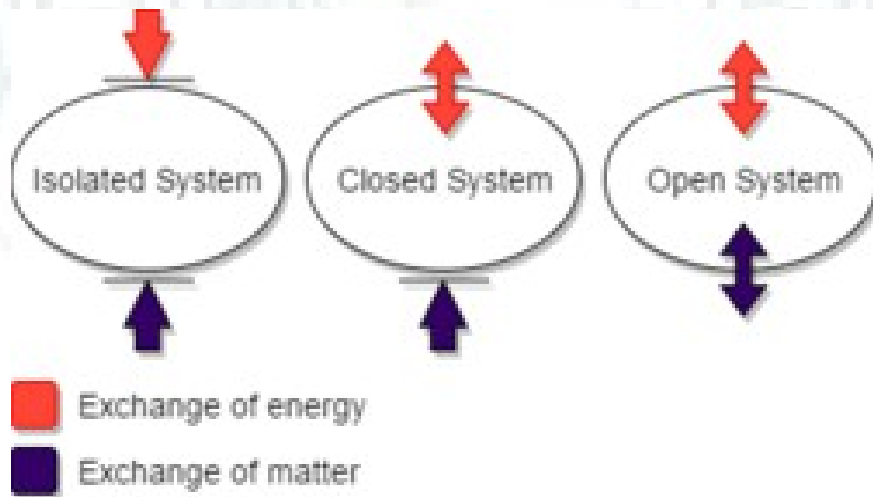
SEMESTER: 3rd SEMESTER

SUBJECT: THERMAL ENGINEERING-I

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SURROUNDING , OPEN SYSTEM , BOUNDARY



OPEN SYSTEM, CLOSED SYSTEM, ISOLATED SYSTEM

Laws of Thermodynamics

Zeroeth law

Temperature

Two systems in equilibrium with a third system are in thermal equilibrium with each other.



First law

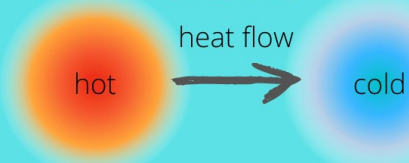
Conservation of Energy

Energy can change forms, but is neither created nor destroyed.



Second law

Entropy of an isolated system always increases.



Third law

Entropy of a system approaches a constant as temperature approaches absolute zero.

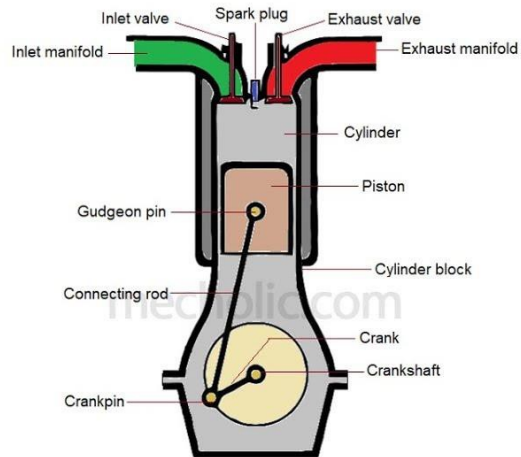


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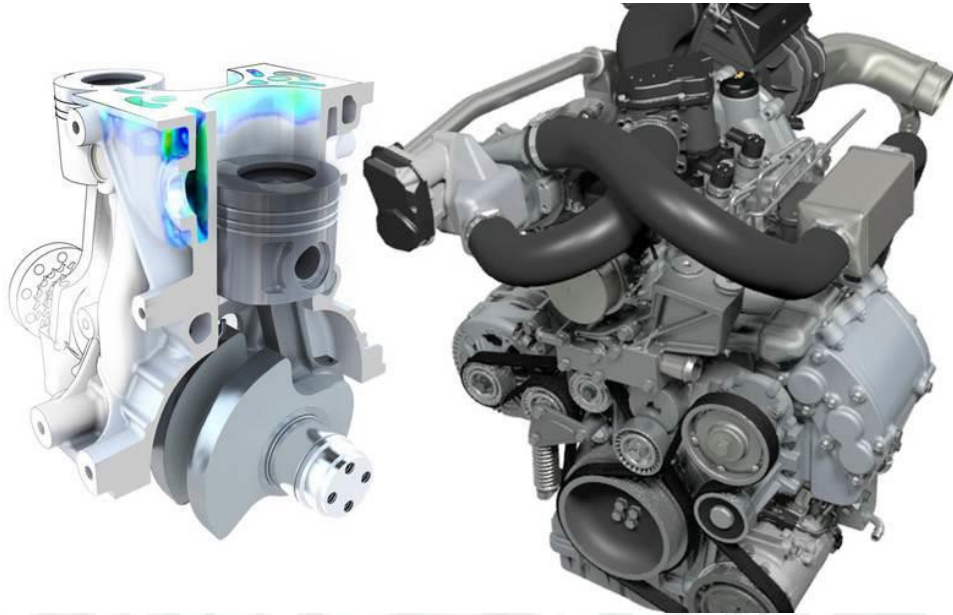
LAWS OF THERMODYNAMICS

Basic components of an IC engine

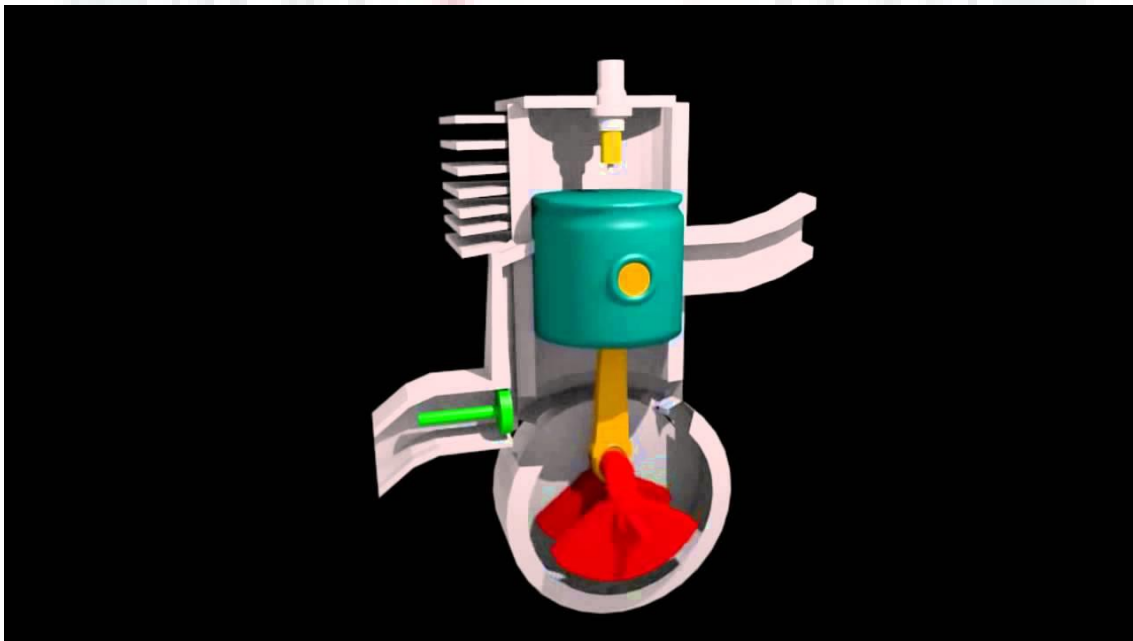
- 1.Cylinder Block
- 2.Cylinder
- 3.Piston
- 4.Combustion Chamber
- 5.Inlet Manifold
- 6.Exhaust Manifold
- 7.Inlet & Exhaust valve
- 8.Spark Plug
- 9.Connecting Rod
- 10.Crankshaft
- 11.Piston Ring
- 12.Gudgeon Pin
- 13.Camsaft



IC ENGINE

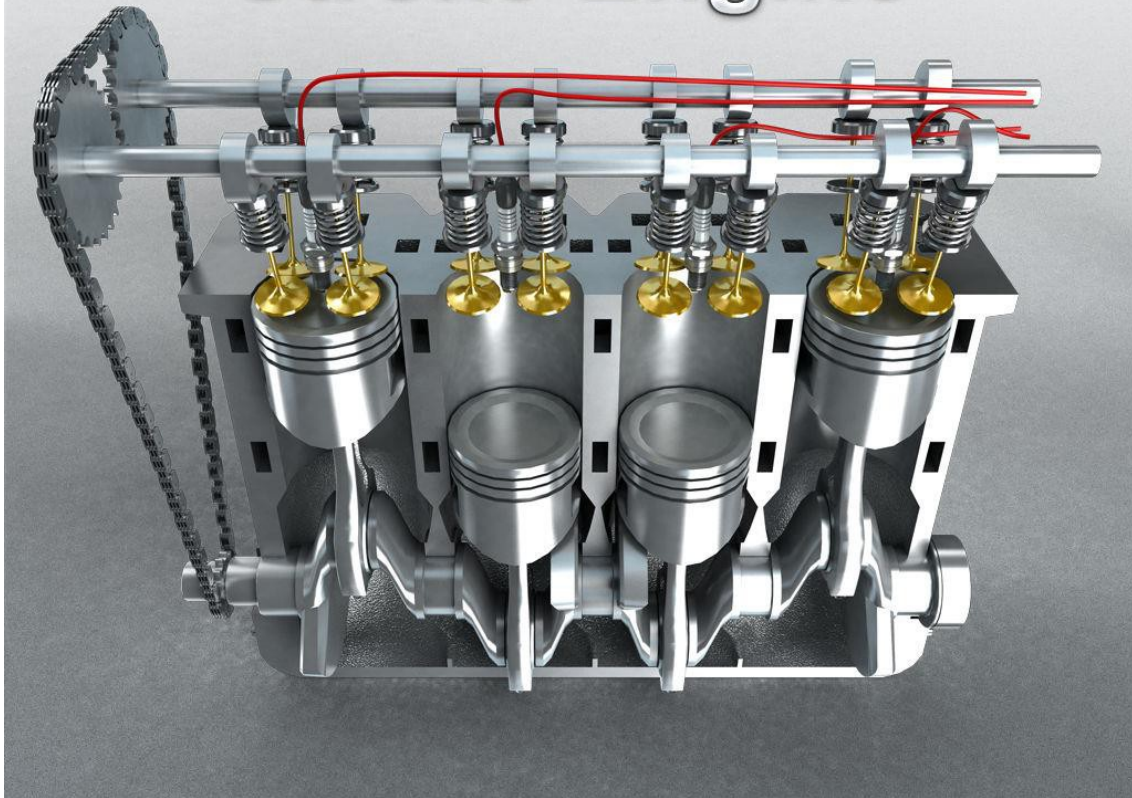


IC ENGINE, PISTON



2 STROKE ENGINE

Four Stroke Engine



4 STROKE ENGINE