THERMODYNAMICS(UG):L-O2

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Assignment:L-01

- <I>Define the followings
- a.closed system b.adtabatic wall c.Reversible process d.state functipn e.thermodynamic properties.
- <ii.>which of the following is not a thermodynamic state function?a.work b.free energy c.temperature d.enthalpy
- <ii>which of the following is an intensive property? A.presure b.mass c.volume d.Internal energy
- <III>Which of the following is a state function and also an extensive property? a.Internal energy b.temperature c.molar heat capacity d.density
- <iv>Distinguish carefully between
- a.Reversible and Irreversible processes b.Isothermal and adiabatic prqcesses c.Isolated and open system

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sign convention
contd...

- <i>Work done by the surrounding on the system or heat gained by the system taken as positive.
- <ii>work done by the system on the surrounding or heat lost by the system taken as negative.
- Note:when a system changes from one state to another,there is always change in energy which appears in the form of heat ,work etc.

First law ofthermodynamics

- It is merely law of conservation of energy
- Energy is the capacity to do work.
- Statements: Neither energy can be created nor destroyed.one form of energy can be transformed to another.
- OR When one form of energy disappears,an equivalentamount another form of energy appears.
- Mathematical form: dE = dq + dw / dE =dq -dw

Contd….

- Isothermal reversible work of expansion,
- W*= nRT lnV2/V1
- Isothermal reversible work of compression,
- W**= nRT ln V1/V2
- Work done in cyclic process=0
- Work done against vaccum= 0
- Thanks