

XI Chemistry Worksheet

Time: 30 min

Ch#6 : Thermodynamics -01

Full Marks: 20

Instructions:

1. All questions are compulsory.
2. Please give the explanation for the answer where applicable.

Q1 - Explain Open, Closed and Isolated system with examples.

(3 Marks)

Q2 - Explain macroscopic system and properties.

(3 Marks)

Q3 - Define Isochoric process.

(1 Mark)

Q4 - Derive an expression for the work done in an isothermal, reversible process.

(5 Marks)

Q5 - Express the change in internal energy of a system when

(i) No heat is absorbed by the system from the surroundings, but work (w) is done on the system. What type of wall does the system have?

(ii) No work is done on the system, but q amount of heat is taken out from the system and given to the surroundings. What type of wall does the system have?

(iii) w amount of work is done by the system and q amount of heat is supplied to the system. What type of system would it be?

(3 Marks)

Q6 - Two moles of an ideal gas initially at 27°C and one atmospheric pressure are compressed isothermally and reversibly till the final pressure of the gas is 10 atm. Calculate q , w and ΔU for the process.

(3 Marks)

Q7 - Explain the enthalpy of formation of a substance.

(1 Mark)

Q8 - Give the second law of thermodynamics.

(1 Mark)