Assignments for Week-7

Assignment-1

At very high pressure, the fugacity of a gas is more than pressure because

(A) Gas molecules condense
(B) Repulsions between gas molecules are dominant
(C) Attractions between gas molecules are dominant
(D) There are no interactions between gas molecules

Assignment-2

Fugacity coefficient is an indicator of

(A) Extent of compressibility of the gas
(B) Intermolecular interaction of the gas
(C) Extent of expansivity of the gas
(D) Deviation of the gas from ideality

Assignment-3

Fugacity can be replaced by pressure at

(A) Very high pressure
(B) Very low pressure
(C) In vacuum
(D) At very high temperature

Assignment- 4

For an irreversible process occurring under adiabatic conditions

(A) $\Delta S(\text{system}) = \Delta S(\text{surroundings}) = 0$
(B) $\Delta S(\text{system}) > 0$; $\Delta S(\text{surroundings}) < 0$
(C) $\Delta S(\text{system}) = 0$; $\Delta S(\text{surroundings}) < 0$
(D) $\Delta S(\text{system}) > 0$; $\Delta S(\text{surroundings}) = 0$

Assignment-5

The difference between ΔA and ΔG is

(A) Maximum non-expansion work obtainable from the system
(B) Maximum expansion work obtainable from the system
(C) Maximum change in internal energy
(D) Maximum change in volume

Assignment-6

Endothermic reactions are driven by

(A) Decrease in entropy of the surroundings
(B) Increase in the entropy of the system
(C) Increase in Gibbs energy of the system
(D) Increase in internal energy of the system

Assignment-7

Variation of internal energy with respect to entropy is

(A) Temperature
(B) Volume
(C) Pressure
(D) Enthalpy

Assignment 8

Volume of a system can be determined from

(A) Variation of Gibbs energy with respect to temperature at constant pressure
(B) Variation of Gibbs energy with respect to pressure at constant temperature
(C) Variation of internal energy with respect to volume at constant temperature
(D) Variation of Helmholtz energy with respect to volume at constant temperature

Assignment-9

If two liquids interact more strongly than individually, the resulting solution upon mixing will show

(A) Positive deviations from ideality
(B) Negative deviations from ideality
(C) Demonstrate ideality
(D) Exothermic heat effects

Assignment-10

One of the technological applications of entropy is

(A) Achieving absolute zero
(B) Achieving extremely low temperature
(C) Achieving perfect order in molecules
(D) Achieving highest heat capacity of a system