

## CHEMICAL EQUILIBRIUM

Std. XII  
CHEMISTRY

Time : 1 Hr  
Max. Marks: 50

## PART - I

(10 × 1 = 10)

- State of chemical equilibrium is
  - dynamic
  - stationery
  - none
  - both
- An equilibrium reaction involves
  - Complex reactions
  - Opposing reactions
  - Parallel reactions
  - Consecutive reactions
- In a 2 lit flask, 24g oxygen is present. Its molar concentration is
  - 0.375 mol/lit
  - 0.355 mol/lit
  - 0.673 mol/lit
  - 0.75 mol/lit
- The degree of dissociation of  $\text{PCl}_5$  at 1 atm and 298 K is 0.2. The value of  $K_p$  is
  - 0.42 atm
  - 0.24 atm
  - 0.48 atm
  - 0.042 atm.
- The enthalpy change for the  $\text{N}_2 + 3\text{H}_2 \rightleftharpoons 2\text{NH}_3$   $\Delta H = -49 \text{ KJ/mol}$ . The enthalpy change of dissociation of ammonia is
  - + 98 KJ/mole
  - + 49 KJ/mole
  - + 24.5 KJ/mole
  - 49 KJ/mole
- For the reaction  $\text{C}_{(s)} + \text{CO}_2_{(g)} \rightleftharpoons 2 \text{CO}_{(g)}$  the partial pressure of  $\text{CO}_2$  and  $\text{CO}$  are 2.0 and 4.0 atm respectively at equilibrium. The  $K_p$  for the reaction is
  - 20 atm
  - 0.5 atm
  - 4 atm
  - 8 atm.
- The maximum yield of  $\text{NH}_3$  in the Haber's process is
  - 37%
  - 97%
  - 89%
  - 78%
- The catalyst used in the oxidation of  $\text{SO}_2$  to  $\text{SO}_3$  is
  - $\text{P}_2\text{O}_5$
  - $\text{V}_2\text{O}_5$
  - $\text{N}_2\text{O}_5$
  - Ni

