

NEET EQUILIBRIUM — K, ΔG° AND SPONTANEITY — PYQS

Max. Marks: 12

Questions: 3

Section A (MCQ) — 3 questions

- Q.1** The equilibrium concentrations of the species in the reaction $A + B \rightleftharpoons C + D$ are 2, 3, 10 and 6 mol L^{-1} , respectively at 300 K. ΔG° for the reaction is ($R = 2 \text{ cal/mol K}$) [NEET (UG) 2023]
- (1) -137.26 cal (2) -1381.80 cal
 (3) -13.73 cal (4) 1372.60 cal

Scan or tap for the
full solution



- Q.2** Hydrolysis of sucrose is given by the following reaction.
 $\text{Sucrose} + \text{H}_2\text{O} \rightleftharpoons \text{Glucose} + \text{Fructose}$
 If the equilibrium constant (K_c) is 2×10^{13} at 300 K, the value of $\Delta_r G^\ominus$ at the same temperature will be :

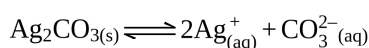
[NEET (UG) 2020]

- (1) $8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(2 \times 10^{13})$
 (2) $8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(3 \times 10^{13})$
 (3) $-8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(4 \times 10^{13})$
 (4) $-8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(2 \times 10^{13})$

Scan or tap for the
full solution



- Q.3** Using the Gibbs energy change, $\Delta G^\circ = + 63.3 \text{ kJ}$, for the following reaction,



the K_{sp} of $\text{Ag}_2\text{CO}_{3(s)}$ in water at 25°C is

($R = 8.314 \text{ J K}^{-1} \text{ mol}^{-1}$) [AIPMT 2014]

- (1) 3.2×10^{-26} (2) 8.0×10^{-12}
 (3) 2.9×10^{-3} (4) 7.9×10^{-2}

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3								
Ans.	2	4	2								