

Worksheet: Equilibrium

Maharashtra State Board · Class 11 · Chemistry · 5 questions · 16 marks

Name: _____

Date: _____

Score: _____ / 16

Q1. Find the pH of a 0.1 M CH₃COOH solution ($K_a = 1.8 \times 10^{-5}$). [3 marks]

Q2. Find the pH of a buffer of 0.1 M CH₃COOH and 0.2 M CH₃COONa ($pK_a = 4.74$). [3 marks]

Q3. Predict the effect of increasing temperature on $N_2 + 3H_2 \rightleftharpoons 2NH_3$ ($\Delta H = -92.4 \text{ kJ}$). [2 marks]

Q4. For $H_2 + I_2 \rightleftharpoons 2HI$, $K_c = 54.8$ at 425 C. If 0.5 M H₂ and 0.5 M I₂ are mixed, find [HI] at equilibrium. [5 marks]

Q5. K_{sp} of BaSO₄ is 1.5×10^{-9} . Will a precipitate form when 0.01 M BaCl₂ and 0.01 M Na₂SO₄ are mixed? [3 marks]
