

Daily Tutorial Sheet-3	Level-1
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31.(A) Proceed in both direction

32.(A) Law of mass action

33.(A) Half

34.(B) $2A + B \rightarrow \text{Products}$ Rate = $k[A]^2 [B]$

35.(B)
$$K_c = \frac{[C]}{[A]^3 [B]^2}$$

36.(A) $X + Y \rightleftharpoons Z$

t = 0 5 3

t = t_{eq} 3 1 2

$$K_{eq} = \frac{2}{3}$$

37.(A) Equilibrium constant is independent of initial concentration.

38.(D) For solid substance activity is 1

39.(C) $\text{COCl}_2(\text{g}) \rightleftharpoons \text{CO}(\text{g}) + \text{Cl}_2(\text{g})$

40.(D)
$$K_c = \frac{[\text{HI}]^2}{[\text{H}_2][\text{I}_2]} = \frac{(0.80)^2}{(0.10)(0.10)}$$

41.(C) L mol^{-1}

42.(D) $A + 2B \rightleftharpoons 2C$

t = 0 2 3 2

t = t_{eq} 2.5 4 1

$$K_c = \frac{\left(\frac{1}{2}\right)^2}{\left(\frac{4}{2}\right)^2 \left(\frac{2.5}{2}\right)} = \frac{\frac{1}{4}}{\frac{16}{4} \times \frac{2.5}{2}} = 0.05$$

43.(B) $2\text{SO}_2(\text{g}) + \text{O}_2(\text{g}) \rightleftharpoons 2\text{SO}_3(\text{g})$

44.(D) $\frac{1}{\sqrt{K}}$

45.(C)
$$K_c = \frac{1}{(1.8 \times 10^{-6})^{1/2}}$$