

Model Question paper
Chemical Equilibrium - I 1

11th Standard

Chemistry

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 00:45:00 Hrs

Total Marks : 30

Part - A

3 x 1 = 3

- 1) In which equilibrium pressure has no effect
(a) $PCl_{5(g)} \rightleftharpoons PCl_{3(g)} + Cl_{2(g)}$ (b) $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ (c) $2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)}$ (d) $NH_4Cl_{(g)} \rightleftharpoons NH_{3(g)} + HCl_{(g)}$
- 2) For the equilibrium $N_2O_{4(g)} \rightleftharpoons 2NO_{2(g)}$ the K_p and K_c value are related as
(a) $K_p = K_c(RT)$ (b) $K_p = K_c(RT)^2$ (c) $K_p = K_c(RT)^{-1}$ (d) $K_p = K_c(RT)^{-2}$
- 3) For endothermic equilibrium, increase in temperature changes the K_{eq} value as
(a) No change (b) Increases (c) Decreases

Part - B

3 x 2 = 6

- 4) Define law of mass action
- 5) Write the K_p expression for $PCl_{5(g)} \rightleftharpoons PCl_{3(g)} + Cl_{2(g)}$
- 6) Relate K_p and K_c when $\Delta n = 0$, $\Delta n = 1$; $\Delta n = 2.0$

Part - C

2 x 3 = 6

- 7) Give an example of irreversible reaction
- 8) Reason out why equilibrium concentrations remain constant.

Part - D

3 x 5 = 15

- 9) Differentiate irreversible and reversible reactions.
- 10) Explain the characteristics of a chemical equilibrium.
- 11) Write a note on heterogeneous equilibrium reaction.

