



I. Choose The Correct Answer:

[8 x 1 = 8]

- If K_b and K_f for a reversible reaction are 0.8×10^{-5} and 1.6×10^{-4} respectively, the value of the equilibrium constant is,
(a) 20 (b) 0.2×10^{-1} (c) 0.05 (d) none of these
- In which of the following Compounds does the central atom obey the octet rule?
(a) XeF_4 (b) AlCl_3 (c) SF_6 (d) SCl_2
- Which of the following is electron deficient?
(a) PH_3 (b) $(\text{CH}_3)_2$ (c) BH_3 (d) NH_3
- Which one of the following is diamagnetic?
(a) O_2 (b) O_2^{2-} (c) O_2^+ (d) None of these
- C-X bond is strongest in?
(a) Chloromethane (b) Iodomethane (c) Bromomethane (d) Fluoromethane
- The raw material for Rasching process
(a) chloro benzene (b) phenol (c) benzene (d) anisole
- The pH of normal rain water is
(a) 6.5 (b) 7.5 (c) 5.6 (d) 4.6
- Ozone depletion will cause
(a) forest fires (b) eutrophication (c) bio magnification (d) global warming

II. Answer any 5 of the following questions:

[5 x 2 = 10]

- State law of mass action.
- Define Bond order.
- Define σ - bond.

12. Why chlorination of methane is not possible in dark?

13. Write a notes on Dow's Process.

14. Define Smog.

III. Answer any 4 of the following questions:

[4 x 3 = 12]

15. State Le-Chatelier principle.

16. Define bond energy.

17. Which bond is stronger σ or π ? Why?

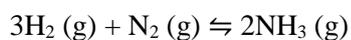
18. Write short notes on Raschig process.

19. What is green chemistry?

IV. Answer any 4 of the following questions:

[4 x 5 = 20]

20. Derive a general expression for the equilibrium constant K_P and K_C for the reaction



21. Discuss the formation of N_2 molecule using MO Theory.

22. Draw MO diagram of CO and calculate its bond order.

23. Mention any three methods of preparation of haloalkanes from alcohols.

24. How is acid rain formed? Explain its effect.

-----ALL THE BEST-----