

Intermediate Chemistry Model Paper-1

CHEMISTRY, Paper-I

(English Version)

Time: 3 Hrs

Max. Marks: 60

SECTION - A

I. Answer ALL the questions.

10 × 2 = 20 M

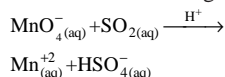
- Graphite is a good conductor. Explain.
- The empirical formula of a compound is CH₂O. Its molecular weight is 90. Calculate the molecular formula of the compound.
- Give the hybridization of carbon in:
 - CO₃²⁻
 - Diamond
 - Graphite
 - Fullerene
- Write the structure of:
 - Trichloroethanoic acid
 - p-nitro benzaldehyde.
- What is PAN? What effect is caused by it?
- Define the terms COD and BOD
- What is Boltzmann's constant? Give its value.
- What happens when magnesium metal is burnt in air?
- Write the biological importance of Na⁺ and K⁺ ions.
- Calculate the pH of 0.05M Ba(OH)₂.

SECTION - B

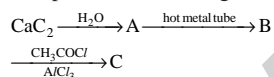
II. Answer any SIX of the following questions.

6 × 4 = 24 M

- Write the postulates of Kinetic molecular theory of gases.
- Balance the following reaction in acidic medium by ion-electron method.



- Write the relation between K_p and K_c.
 - What is a conjugate acid - base pair? Illustrate with examples.
- State and explain Hess's Law of constant heat summation. Give example.
- Explain the structure of diborane.
- Write two oxidizing and two reducing properties of H₂O₂
- Explain the following reactions.
 - Wurtz reaction
 - Ozonolysis
- Complete the following reactions and name A, B and C.



SECTION - C

III. Answer any TWO of the following questions.

2 × 8 = 16 M

- How are the quantum numbers n, l, m_l and m_s arrived and explain the significance of Quantum numbers?
- Define IP₁, IP₂. Why is IP₂ > IP₁ for a given atom? Discuss the factors that effect IP of an element.
- What do you understand by Hybridization? Explain different types of hybridization involving s and p orbitals.