

UP Board Class 12 Chemistry Question Paper 2026 Memory Based

Time Allowed :3 Hours	Maximum Marks :70	Total Questions :30
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1. If the rate law of a reaction is $\text{Rate} = K[A]^2[B]^0$, then what will be the order of the reaction?

- (i) Zero order
 - (ii) First order
 - (iii) Second order
 - (iv) Third order
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2. For which of the following ions will the magnetic moment (μ) be maximum?

- (i) Zn^{2+}
 - (ii) Fe^{2+}
 - (iii) Co^{2+}
 - (iv) Ni^{2+}
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3. The increasing order of reactivity of the following compounds in S_N1 reaction is:

Compounds:

- A. $(CH_3)_3CBr$
- B. $CH_3CH_2CH_2CH_2Br$
- C. $(CH_3)_2CHCH_2Br$
- D. $CH_3CH(Br)CH_2CH_3$

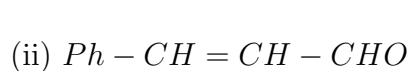
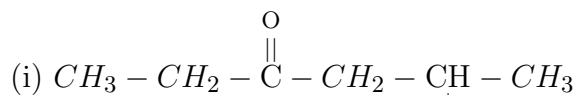
- (i) $A < B < C < D$
 - (ii) $B < C < D < A$
 - (iii) $D < C < B < A$
 - (iv) $B < D < A < C$
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4. Does the half-life of a first-order reaction depend on the initial concentration of the reaction? Explain.

5. Write the definition of electrode potential and cell electromotive force (emf).

6. $[NiCl_4]^{2-}$ is paramagnetic while $[Ni(CO)_4]$ is diamagnetic even though both are tetrahedral. Why?

7. Write the IUPAC nomenclature of the following organic compounds:



8. Write the mechanism of bimolecular nucleophilic substitution reaction (S_N2) of alkyl halide.

9. What is a peptide bond? Explain with an example.

10. (i) Write the electronic configuration of the element with atomic number 24.

(ii) Find the number of unpaired electrons in Co^{2+} ion.

(iii) Why is the range of oxidation states greater in the actinoid series compared to the lanthanoid series?

11. What happens when aniline reacts with the following:

(i) Bromine water

(ii) $(CH_3CO)_2O$ / Pyridine

(iii) $HNO_2 + HCl(0^\circ - 5^\circ C)$

12. Write the structures of (A), (B), and (C) in the following reaction:
Reaction Scheme:



13. Write the structures of (A), (B), and (C) in the following reaction:

