Chemistry

Daily Practice Paper #1 · JEE Advanced 2026 · Class 12

SolveFlow · Demo Paper

Field	Value
Subject	Chemistry
Total Questions	10
Total Marks	40
Negative Marking	−1 per wrong answer
Time Suggested	30 minutes
Syllabus	Class 12 — Electrochemistry, Kinetics, p-Block, d-Block, Coordination, Organic

CO & Bloom's Level Mapping

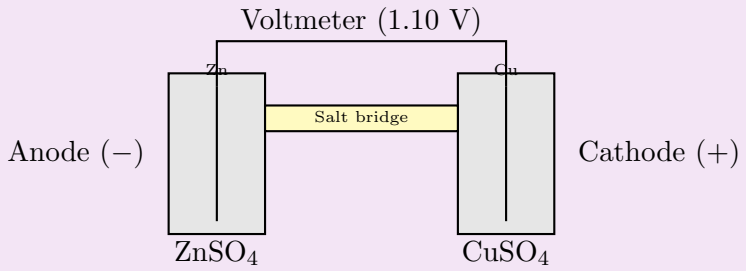
Q No.	Topic	CO	Bloom's Level
1	Electrochemistry — Daniell Cell	CO1	L3 — Apply
2	Chemical Kinetics — First Order	CO1	L3 — Apply
3	Surface Chemistry — Adsorption	CO2	L2 — Understand
4	p-Block — Bond Angles	CO2	L4 — Analyse
5	d-Block — Oxidation States	CO3	L2 — Understand
6	Coordination Chemistry — IUPAC	CO3	L3 — Apply
7	Aldehydes & Ketones — Tollens'	CO4	L4 — Analyse
8	Amines — Basic Strength	CO4	L4 — Analyse
9	Polymers — Nylon-6,6	CO5	L1 — Remember
10	Biomolecules — Protein Structure	CO5	L2 — Understand

Instructions

- Each question carries **4 marks** for a correct answer.
- -1 **mark** is deducted for each incorrect answer.
- No marks are deducted for unattempted questions.
- Use of calculator is **not** permitted.
- All reactions assumed to occur in aqueous solution unless stated otherwise.

Q1 | *Electrochemistry — Daniell Cell* Marks: 4 | CO/BL: CO1 / L3

The standard electrode potentials are: $E^\circ(\mathrm{Zn^{2+}/Zn}) = -0.76\,\mathrm{V}$ and $E^\circ(\mathrm{Cu^{2+}/Cu}) = +0.34\,\mathrm{V}$. The EMF of the Daniell cell $\mathrm{Zn\,|\,ZnSO_4\,||\,CuSO_4\,|\,Cu}$ under standard conditions is:



(A) $-1.10\,\mathrm{V}$

(B) $+1.10\,\mathrm{V}$

(C) $+0.42\,\mathrm{V}$

(D) $-0.42\,\mathrm{V}$

Q2 | *Chemical Kinetics — First Order Reaction* Marks: 4 | CO/BL: CO1 / L3

For a first-order reaction, the half-life $t_{1/2} = 693\,\mathrm{s}$. The rate constant k is:

(A) $1.0 \times 10^{-3}\,\mathrm{s^{-1}}$

(B) $0.693\,\mathrm{s^{-1}}$

(C) $1.0 \times 10^{-2}\,\mathrm{s^{-1}}$

(D) $693\,\mathrm{s^{-1}}$

Q3 | *Surface Chemistry — Physisorption vs Chemisorption* Marks: 4 | CO/BL: CO2 / L

Physisorption differs from chemisorption primarily because physisorption:

(A) Involves high activation energy

(B) Is highly specific to the adsorbent

(C) Is reversible and involves van der Waals forces

(D) Forms covalent bonds with the surface

Q4 | *p-Block Elements — Bond Angles* Marks: 4 | CO/BL: CO2 / L4

The correct order of bond angles among $\mathrm{NH_3}$, $\mathrm{NF_3}$, and $\mathrm{PH_3}$ is:

(A) $NH_3 > NF_3 > PH_3$

(B) $NF_3 > NH_3 > PH_3$

(C) $NH_3 > PH_3 > NF_3$

(D) $PH_3 > NH_3 > NF_3$

Q5 | *d-Block Elements — Manganese Oxoanions* Marks: 4 | CO/BL: CO3 / L2

The highest oxidation state of Mn in its common oxoanion is +7. The formula of the **permanganate ion** is:

(A) MnO_4^-

(B) MnO_4^{2-}

(C) Mn_2O_7

(D) MnO_2

Q6 | *Coordination Chemistry — IUPAC Nomenclature* Marks: 4 | CO/BL: CO3 / L3

The IUPAC name of $[Co(NH_3)_4(NO_2)Cl]Cl$ is:

(A) Tetraamminechloronitrocobalt(III) chloride

(B) Tetraamminechloridonitrito-κO-cobalt(III) chloride

(C) Tetraamminenitrochloridocobalt(III) chloride

(D) Chloridotetraamminenitroso-cobalt(III) chloride

Q7 | *Aldehydes & Ketones — Tollens' vs Fehling's Test* Marks: 4 | CO/BL: CO4 / L4

Which compound gives a **positive Tollens' test** but **negative Fehling's test**?

(A) Formaldehyde (HCHO)

(B) Acetaldehyde (CH_3CHO)

(C) Benzaldehyde (C_6H_5CHO)

(D) Acetone (CH_3COCH_3)

Q8 | *Amines — Basic Strength in Aqueous Solution* Marks: 4 | CO/BL: CO4 / L4

The correct order of basic strength of amines **in aqueous solution** is:

(A) $(CH_3)_3N > (CH_3)_2NH > CH_3NH_2 > NH_3$

(B) $(CH_3)_2NH > CH_3NH_2 > (CH_3)_3N > NH_3$

(C) $CH_3NH_2 > (CH_3)_2NH > (CH_3)_3N > NH_3$

(D) $NH_3 > CH_3NH_2 > (CH_3)_2NH > (CH_3)_3N$

Q9 | *Polymers — Nylon-6,6* Marks: 4 | CO/BL: CO5 / L1

Nylon-6,6 is formed by the condensation polymerisation of:

(A) Caprolactam

(B) Hexamethylenediamine and adipic acid

(C) Hexamethylenediamine and sebacic acid

(D) Glycol and terephthalic acid

Q10 | *Biomolecules — Protein Secondary Structure* Marks: 4 | CO/BL: CO5 / L2

The secondary structure of a protein is maintained primarily by:

(A) Peptide bonds (−CO−NH−)

(B) Disulfide bridges (−S−S−)

(C) Hydrogen bonds between C=O and N−H groups of the backbone

(D) Ionic interactions between charged side chains