JEE Main 2026 Chemistry Syllabus

National Testing Agency (NTA) Based Compilation

August 2025

Contents

Introduction

The JEE Main 2026 Chemistry Syllabus is designed to assess candidates' understanding of fundamental concepts and their application in Physical, Inorganic, and Organic Chemistry. It aligns with the NCERT curriculum for Classes 11 and 12, covering 28 chapters across three sections. The syllabus is expected to remain largely consistent with 2025, with no major changes announced as of August 2025. Topics removed in 2024, such as Surface Chemistry, States of Matter, and Polymers, remain excluded. Candidates should refer to the official NTA website (jeemain.nta.nic.in) for the latest updates once released in November 2025. This document provides a detailed topic-wise breakdown and weightage based on previous years' trends to aid strategic preparation.

1 Section A: Physical Chemistry

Physical Chemistry includes 10 units, focusing on quantitative and theoretical concepts. Below is the detailed syllabus with key topics and approximate weightage based on past trends.

1. **Some Basic Concepts in Chemistry** (Weightage: 4-5%)
    - Matter and its nature, Daltons atomic theory, Laws of chemical combination, Atomic and molecular masses, Mole concept, Molar mass, Percentage composition, Empirical and molecular formulae, Chemical equations, Stoichiometry.
2. **Atomic Structure** (Weightage: 5-6%)
    - Thomson and Rutherford atomic models, Bohr model, Quantum mechanical model, Orbitals, Quantum numbers, Electronic configuration, Aufbau principle, Paulis exclusion principle, Hunds rule.
3. **Chemical Bonding and Molecular Structure** (Weightage: 6-7%)
    - Ionic and covalent bonds, Valence bond theory, Molecular orbital theory, VSEPR theory, Hybridization, Hydrogen bonding, Bond parameters.
4. **Chemical Thermodynamics** (Weightage: 6-8%)
    - First, second, and third laws of thermodynamics, Enthalpy, Entropy, Gibbs free energy, Hesss law, Heat capacity, Bond dissociation energy.
5. **Solutions** (Weightage: 5-6%)
    - Types of solutions, Concentration terms (molarity, molality, mole fraction), Raoults law, Colligative properties, Vant Hoff factor.
6. **Equilibrium** (Weightage: 6-7%)
    - Physical and chemical equilibrium, Equilibrium constant, Le Chateliers principle, Ionic equilibrium, pH, Buffer solutions, Solubility product.
7. **Redox Reactions and Electrochemistry** (Weightage: 5-6%)
    - Oxidation and reduction, Redox reactions, Balancing redox equations, Electrochemical cells, Nernst equation, Conductance, Kohlrauschs law.
8. **Chemical Kinetics** (Weightage: 4-5%)

- Rate of reaction, Rate laws, Order and molecularity, Half-life, Arrhenius equation, Activation energy.

9. **Surface Chemistry** (Removed in 2024)
    - Note: This unit is no longer part of the JEE Main 2026 syllabus.
10. **States of Matter** (Removed in 2024)
    - Note: This unit is no longer part of the JEE Main 2026 syllabus.

2 Section B: Inorganic Chemistry

Inorganic Chemistry includes 8 units, emphasizing periodic trends and chemical properties. Below is the detailed syllabus with key topics and approximate weightage.

1. **Classification of Elements and Periodicity in Properties** (Weightage: 4-5%)
    - Periodic table, Periodic trends (atomic radius, ionization energy, electronegativity), Electron affinity, Valency.
2. **p-Block Elements** (Weightage: 6-7%)
    - Group 13 to 17 elements, Physical and chemical properties, Oxides, Halides, Allotropes, Important compounds (e.g., borax, ammonia).
3. **d- and f-Block Elements** (Weightage: 5-6%)
    - Transition metals, Lanthanoids, Actinoids, General properties, Oxidation states, Magnetic properties.
4. **Coordination Compounds** (Weightage: 5-6%)
    - Ligands, Coordination number, Nomenclature, Isomerism, Werners theory, Valence bond theory, Crystal field theory.
5. **General Principles and Processes of Isolation of Metals** (Removed in 2024)
    - Note: This unit is no longer part of the JEE Main 2026 syllabus.
6. **s-Block Elements** (Removed in 2024)
    - Note: This unit is no longer part of the JEE Main 2026 syllabus.
7. **Hydrogen** (Removed in 2024)
    - Note: This unit is no longer part of the JEE Main 2026 syllabus.
8. **Environmental Chemistry** (Removed in 2024)
    - Note: This unit is no longer part of the JEE Main 2026 syllabus.

3 Section C: Organic Chemistry

Organic Chemistry includes 10 units, focusing on reaction mechanisms and functional groups. Below is the detailed syllabus with key topics and approximate weightage.

1. **Purification and Characterisation of Organic Compounds** (Weightage: 2-3%)
    - Purification methods (crystallization, distillation), Qualitative and quantitative analysis, Determination of molecular mass.
2. **Some Basic Principles of Organic Chemistry** (Weightage: 4-5%)
    - Tetravalency of carbon, Hybridization, Nomenclature, Isomerism, Resonance, Inductive and electromeric effects.
3. **Hydrocarbons** (Weightage: 6-7%)
    - Alkanes, Alkenes, Alkynes, Aromatic hydrocarbons, Reactions (addition, substitution, elimination).
4. **Organic Compounds Containing Halogens** (Weightage: 4-5%)
    - Haloalkanes, Haloarenes, Nucleophilic substitution, Elimination reactions.
5. **Organic Compounds Containing Oxygen** (Weightage: 6-7%)
    - Alcohols, Phenols, Ethers (removed in 2024), Aldehydes, Ketones, Carboxylic acids, Reactions (oxidation, reduction, esterification).
6. **Organic Compounds Containing Nitrogen** (Weightage: 4-5%)
    - Amines, Diazonium salts, Cyanides, Isocyanides, Reactions (basicity, alkylation).
7. **Biomolecules** (Weightage: 3-4%)
    - Carbohydrates, Proteins, Nucleic acids, Enzymes, Vitamins.
8. **Polymers** (Removed in 2024)
    - Note: This unit is no longer part of the JEE Main 2026 syllabus.
9. **Principles Related to Practical Chemistry** (Weightage: 2-3%)
    - Detection of functional groups, Titrimetric analysis, Qualitative analysis of ions.
10. **Chemistry in Everyday Life** (Weightage: 2-3%)
    - Chemicals in medicines, Food additives, Detergents.

4 Preparation Tips

To excel in the JEE Main 2026 Chemistry section, follow these strategies:

- **Understand the Syllabus**: Focus on high-weightage topics like Chemical Thermodynamics, p-Block Elements, and Hydrocarbons.
- **Use NCERT Textbooks**: The syllabus aligns closely with NCERT Class 11 and 12 books, which are essential for conceptual clarity.
- **Practice Regularly**: Solve previous years papers and mock tests to improve speed and accuracy.
- **Revise Key Formulas**: Maintain concise notes for reactions, mechanisms, and formulas for quick revision.

- **Prioritize Weak Areas**: Identify and strengthen weak topics through targeted practice.

5 Deleted Topics from Previous Years

The following topics were removed from the JEE Main Chemistry syllabus in 2024 and are expected to remain excluded in 2026:

- Physical Chemistry: Surface Chemistry, States of Matter.
- Inorganic Chemistry: General Principles and Processes of Isolation of Metals, s-Block Elements, Hydrogen, Environmental Chemistry.
- Organic Chemistry: Alcohols, Phenols, Ethers, Polymers.

6 Download Instructions

The official JEE Main 2026 Chemistry Syllabus PDF will be available on the NTA website (jeemain.nta.nic.in) in November 2025. Candidates can also access free PDF downloads from educational platforms like Vedantu, Shiksha, or Physics Wallah. This document can be compiled into a PDF using a LaTeX editor like Overleaf for offline reference.