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CHAPTER NOTES

JEE Main 2027 Chemistry Hot Topics - Chapter-Wise Weightage

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JEE Main 2027 Chemistry Hot Topics - Chapter-Wise Weightage (Free PDF)

JEE Main 2027 Chemistry - Hot Topics Analysis from 2021–2025 trends. Chemistry section: **30 questions, 100 marks**. Organic and Physical Chemistry slightly outweigh Inorganic. Focus on these 20 chapters to cover 80%+ of likely questions.

JEE Main 2027 Session 1: expected January 2027. Session 2: expected April 2027 (dates to be announced by NTA).

Branch-wise Question Count (2025)

- Physical Chemistry: 176 questions (all sessions combined)
- Organic Chemistry: 169 questions
- Inorganic Chemistry: 130 questions

Hot Topics Ranked by Weightage (2021–2025)

Aldehydes, Ketones and Carboxylic Acids - 5.95% weightage (Class 12, Organic)

Key concepts: Nucleophilic addition, aldol, Cannizzaro, acidity of COOH, preparation methods

Question pattern: Mechanism, product prediction, distinguishing tests. 2-3 questions.

Coordination Compounds - 5.33% weightage (Class 12, Inorganic)

Key concepts: Werner’s theory, IUPAC nomenclature, isomerism, CFT, colour and magnetic properties

Question pattern: Geometry, CFSE, naming, magnetic moment. 2-3 questions.

d- and f-Block Elements - 4.69% weightage (Class 12, Inorganic)

Key concepts: Transition metal trends, lanthanide contraction, KMnO4, K2Cr2O7, oxidation states

Question pattern: Colour, oxidising behaviour, comparisons. 2 questions.

Solutions - 4.54% weightage (Class 12, Physical)

Key concepts: Molarity, molality, Raoult’s law, colligative properties, van’t Hoff factor

Question pattern: Elevation BP, depression FP, osmotic pressure. 2 questions.

Equilibrium - 4.44% weightage (Class 11, Physical)

Key concepts: Kc, Kp, Le Chatelier, ionic equilibrium, buffer, Ksp, pH

Question pattern: Buffer calculations, solubility, degree of ionisation. 2 questions.

Amines (Nitrogen-Containing Organic Compounds) - 4.40% weightage (Class 12, Organic)

Key concepts: Preparation, basicity, Hoffmann, Gabriel, diazonium chemistry

Question pattern: Basicity order, diazonium coupling. 2 questions.

s-Block Elements - 4.16% weightage (Class 11, Inorganic)

Key concepts: Alkali/alkaline earth metals, anomalous behaviour, biological importance

Question pattern: Trend-based questions, anomalous Li/Be. 1-2 questions.

Biomolecules - 3.99% weightage (Class 12, Organic)

Key concepts: Carbohydrates, proteins, nucleic acids, enzymes, vitamins

Question pattern: Classification, structure-based. 1-2 questions.

p-Block Elements (Groups 15-18) - 3.68% weightage (Class 12, Inorganic)

Key concepts: N family, O family, halogens, noble gases - preparation and properties

Question pattern: Oxoacids, interhalogens, acid strength. 2 questions.

Chemical Thermodynamics - 3.65% weightage (Class 11, Physical)

Key concepts: First law, enthalpy, entropy, Gibbs energy, bond enthalpy, Hess's law

Question pattern: ΔH, ΔG, ΔS calculations. 1-2 questions.

Chemical Bonding and Molecular Structure - 3.5% weightage (Class 11, Inorganic)

Key concepts: VSEPR, hybridisation, MOT, bond order, H-bonding

Question pattern: Shape prediction, bond order, dipole moment. 2 questions.

Hydrocarbons - 3.4% weightage (Class 11, Organic)

Key concepts: Alkanes, alkenes, alkynes, aromatic, Markovnikov, electrophilic substitution

Question pattern: Mechanism, product prediction. 1-2 questions.

Chemical Kinetics - 3.3% weightage (Class 12, Physical)

Key concepts: Rate law, order, molecularity, Arrhenius, integrated rate laws, half-life

Question pattern: First-order problems, activation energy. 1-2 questions.

Electrochemistry - 3.2% weightage (Class 12, Physical)

Key concepts: Galvanic cells, Nernst, conductance, electrolysis, Faraday's laws, batteries

Question pattern: EMF, Faraday's law calculations. 1-2 questions.

Organic Chemistry - Basic Principles and Techniques - 3.1% weightage (Class 11, Organic)

Key concepts: IUPAC naming, electronic effects, intermediates, reaction types

Question pattern: Carbocation stability, nomenclature. 1-2 questions.

Structure of Atom - 2.9% weightage (Class 11, Physical)

Key concepts: Bohr, quantum numbers, orbitals, Heisenberg, electronic configuration

Question pattern: Quantum numbers, orbital shapes. 1-2 questions.

Haloalkanes and Haloarenes - 2.8% weightage (Class 12, Organic)

Key concepts: SN1, SN2, E1, E2, optical activity, aryl halide reactions

Question pattern: Mechanism, reactivity order. 1-2 questions.

Alcohols, Phenols and Ethers - 2.7% weightage (Class 12, Organic)

Key concepts: Preparation, acidity, Kolbe, Reimer-Tiemann, Williamson synthesis

Question pattern: Acidity comparison, named reactions. 1-2 questions.

Classification of Elements and Periodicity - 2.5% weightage (Class 11, Inorganic)

Key concepts: Modern periodic law, atomic radius, IE, EA, electronegativity trends

Question pattern: Trend comparisons. 1 question.

Redox Reactions - 2.2% weightage (Class 11, Physical)

Key concepts: Oxidation number, balancing, disproportionation, n-factor

Question pattern: Balancing redox, equivalent concept. 1 question.

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