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Click on the links below to get your free PDFs: JEE Main & Advanced 2025 Chapterwise for Class 11th JEE Main & Advanced 2025 Chapterwise for Class 12th - Read Also - NIRF Ranking 2024 : IIT Madras Secures Top Spot in Engineering Category - Top 10 Engineering Colleges in India Read Also - NIRF Ranking 2024 : Hindu College Tops the List of Best Colleges in India - Discover India's Top 10 Colleges List Read Also - Top BTech Programs at IITs Poised to Leading the Indian Market Read Also - Education Loans in India : Easy Step-by-Step Guide to Apply Best Engineering Colleges Accepting JEE Main Score in India Top 7 IIT's Compared for Placements, Rankings & Salary Trends NIT Delhi Rankings & BTech/MTech Courses for JEE Main 2024 Applicants Top UG Entrance Exams in India 2025: Engineering, Medical, Management, Architecture - Check List Here Top Colleges Accepting JEE Advanced Scores Besides IITs in 2024 - JEE Main & Advanced Study Material Digital Distance Learning Invictus School Integrated Program Find a Center agra,ahmedabad,ajmer,akola,aligarh,ambala,amravati,amritsar,aurangabad,ayodhya,bangalore,bareilly,bathinda,bhagalpur,bhilai,bhiwani,bhopal,bhubaneswar,bikaner,bilaspur,bokaro,chandigarh,chennai,coimbatore,cuttack,dehradun,delhi ncr,dhanbad,dibrugarh,durgapur,faridabad,ferozepur,gandhinagar,gaya,ghaziabad,goa,gorakhpur,greater noida,gurugram,guwahati,gwalior,haldwani,haridwar,hisar,hyderabad,indore,jabalpur,jaipur,jalandhar,jammu,jamshedpur,jhansi,jodhpur,jorhat,kaithal,kanpur,karimnagar,karnal,kashipur,khammam,kharagpur,kochi,kolhapur,kolkata,kota,kottayam,kozhikode,kurnool,kurukshetra,latur,lucknow,ludhiana,madurai,mangaluru,mathura,meerut,moradabad,mumbai,muzaffarpur,mysore,nagpur,nanded,narnaul,nashik,nellore,noida,palwal,panchkula,panipat,pathankot,patiala,patna,prayagraj,puducherry,pune,raipur,rajahmundry,ranchi,rewa,rewari,rohtak,rudrapur,sahganganagar,srinagar,surat,thrissur,tinsukia,tiruchirapalli,tirupati,trivandrum,udaipur,udhampur,ujjain,vadodara,vapi,varanasi,vellore,vijayawada,visakhapatnam,warangal,yamuna-nagar Written By Prince Last Modified 14-02-2025 JEE Advanced Chemistry Important Questions: Candidates looking to strengthen their exam preparation for JEE Advanced 2025 must look into practising as many JEE Advanced previous year question papers as possible. It will help them in analysing which areas need more attention. This will not only help them in creating a proper study plan but will also assist them in being confident in their exam preparation. This article lists previous year's question papers of JEE Advanced along with the solutions. The questions provided in the article are incredibly crucial for JEE Advanced exam preparation. We have provided previous years' questions and solutions for IIT-JEE Advanced. These questions are an excellent resource for reviewing important topics and understanding the exam pattern. Read more to learn more about the IIT JEE Chemistry questions. JEE Advanced Latest Updates:— IIT JEE (Advanced) 2025 is scheduled on May 18, 2025. It will be conducted by IIT, Kanpur.— Solve JEE Advanced Mock Tests to score better in the exam. Practising the previous year's topic-wise Chemistry questions can help candidates gain confidence in their learning abilities. Solving JEE Advanced previous year papers has the advantage of exposing candidates to the types of questions that will be asked in the JEE test. Before getting into the JEE Advanced important Chemistry questions, let us acquaint candidates with the exam overview: ParticularsAboutName of the ExamJoint Entrance Examination – Advanced (JEE Advanced)Conducting BodyOne of the IITsPurpose of the ExamTo Facilitate Admission to UG Engineering Courses in IITs, IISc, etc.Frequency of the ExamOnce a YearMode of ApplicationOnlinePayment of Application FeeOnlineExam ModeComputer-based Test (Online)Number of PapersTwoSubjectsPhysicsChemistryMathsOfficial Websitejeeadv.ac.in The JEE Advanced mock exams created by Embibe's subject-matter specialists are clearly written and have a track record of success for the JEE Advanced 2025 exam. Only three to four practice exams will significantly improve the candidates' performance. Use the steps below to register and start taking practice exams right away! 1st Step: Visit Embibe's official website, i.e., www.embibe.com. 2nd Step: Login through the registered mobile number/email. 3rd Step: Then select Goal as JEE Advanced under Engineering. Then, click on Next and select your preferred language. 4th Step: Once done, click the links below to take the test. Here are some Chemistry JEE Advanced questions for all JEE Advanced candidates below. Question 1: Which of the following liberates O2 upon hydrolysis? Ans: 2 Question 2: A colourless aqueous solution contains nitrates of two metals, X and Y. When it was added to an aqueous solution of NaCl, a white precipitate was formed. This precipitate was found to be partially soluble in hot water to give a residue P and a solution Q. The residue P was soluble in aq. NH3 and also in excess sodium thiosulfate. The hot solution Q gave a yellow precipitate with KI. The metals X and Y, respectively, are Ag and Pb Ag and Cd Cd and Pb Cd and Zn Ans: 1 Question 3: Newman projections P, Q, R, and S are shown below: Which one of the following options represents identical molecules? P and Q Q and S Q and R R and S Ans: 3 JEE Advanced Organic Chemistry Questions: Question 4: Which of the following structures has the IUPAC name 3-ethynyl-2-hydroxy-4-methylhex-3-en-5-ynoic acid? Question 5. In thermodynamics, the ? – ? work done is given by \(w=-\int dV{ ,{ext}}\). For a system undergoing a particular process, the work done is \(w=-\int dV{ ,{ext}}\). For a system undergoing a particular process, the work done is \(w=-\int dV{ ,{ext}}\). This equation is applicable to the following: System that satisfies the van der Waals equation of state. Process that is reversible and adiabatic. Process that is irreversible and at constant pressure. Ans: 1, 2, 3 Question 6: With respect to hypochlorite, chlorate, and perchlorate ions, choose the correct statement(s). The hypochlorite ion is the strongest conjugate base. The molecular shape of only chlorate ion is influenced by the lone pair of electrons of Cl. The hypochlorite and chlorate ions are disproportionate, giving rise to an identical set of ions. The hypochlorite ion oxidizes the sulphite ion. Ans: 1, 2, 4 Question 7: 5.00 mL of 0.10 M oxalic acid solution taken in a conical flask is titrated against NaOH from a burette using a phenolphthalein indicator. The volume of NaOH required for the appearance of a permanent faint pink colour is tabulated below for five experiments. What is the concentration, in molarity, of the NaOH solution? Exp. No.Vol. of NaOH (mL)112.5210.539.049.059.0 Ans: 0.11 Question 8: Consider a 70% efficient hydrogen-oxygen fuel cell working under standard conditions at 1 bar and 298 K. Its cell reaction is H2(g) + ½ O2(g) → H2O(l) The work derived from the cell on the consumption of 1.0 × 10−3mol of H2(?) is used to compress 1.00 mol of a monoatomic ideal gas in a thermally insulated container. What is the change in the temperature (in K) of the ideal gas? The standard reduction potentials for the two half-cells are given below: O2(?) + 4H+(??) + 4?− → 2 H2O (?), ?0 = 1.23 V,2H+(??) + 2?− → H2 (?), ?0 = 0.00 VUse ? = 96500 C mol−1, R = 8.314 J mol−1 K−1. Ans: 13.32 Question 9: Aluminium reacts with sulfuric acid to form aluminium sulphate and hydrogen. What is the volume of hydrogen gas in litres (L) produced at 300 K and 1.0 ATM pressure when 5.4 g of aluminium and 50.0 mL of 5.0 M sulfuric acid are combined for the reaction?(Use molar mass of aluminium as 27.0 g mol−1,? = 0.082 ATM L mol−1 K−1) Ans: 6.15 litres Question 10: To measure the quantity of MnCl2 dissolved in an aqueous solution, it was completely converted to KMnO4 using the reaction MnCl2 + K2S2O8 + H2O → KMnO4 + H2SO4 + HCl (equation not balanced). A few drops of concentrated HCl were added to this solution and gently warmed. Further, oxalic acid (225 g) was added in portions till the colour of the permanganate ion disappeared. The quantity of MnCl2 (in mg) present in the initial solution is ____. (Atomic weights in g mol-1: Mn = 55, Cl = 35.5) Ans: 126 mg Question 11: For the reaction:I− + ClO-3 + H2SO4 → Cl− + HSO4− + I2The correct statement(s) in the balanced equation is/are: 1. Stoichiometric coefficient HSO4− of is 62. Iodide is oxidized3. Sulphur is reduced4. H2O is one of the products Ans: 1, 2 and 4 Question 12: Consider a titration of potassium dichromate solution with acidified Mohr's salt solution using diphenylamine as an indicator. The number of moles of Mohr's salt required per mole of dichromate is: Ans: 6 Question 13: Which ordering of compounds is according to the decreasing order of the oxidation state of nitrogen? 1. HNO3, NO, NH4Cl, N22. HNO3, NO, N2, NH4Cl3. HNO3, NH4Cl, NO, N24. NO, HNO3, NH4Cl, N2 Ans: 2 Question 14: \({}_{92}^{238}\text{u}\) is known to undergo radioactive decay to form \({}_{82}^{206}\text{Pb}\) by emitting alpha and beta particles. A rock initially contained 68 × 10−6 g of\({}_{92}^{238}\text{u}\). If the number of alpha particles that it would emit during its radioactive decay \({}_{92}^{238}\text{u}\) to \({}_{82}^{206}\text{Pb}\) of to in three half-lives is ? × 1018, then what is the value of ?? Ans: 1.21 JEE Advanced Organic Chemistry Question 15: In the following reaction, compound Q is obtained from compound P via an ionic intermediate. What is the degree of unsaturation of Q? Ans: 18 Question 16: Consider the reaction A = B at 1000 K. At time?, the system's temperature was increased to 2000 K, and the system was allowed to reach equilibrium. Throughout this experiment, the partial pressure of A was maintained at 1 bar. Given below is the plot of the partial pressure of B with time. What is the standard Gibbs energy ratio of the reaction at 1000 K to 2000 K? Ans: 0.25 Question 17: The cubic unit cell structure of a compound containing cation M and anion X is shown below. When compared to the anion, the cation has a smaller ionic radius. Choose the correct statement(s). The empirical formula of the compound is MX. The cation M and anion X have different coordination geometries. The ratio of M-X bond length to the cubic unit cell edge length is 0.866. The ratio of the ionic radii of cation M to anion X is 0.414. Ans: 1, 3 Question 18: Choose the correct statement(s) among the following: [FeCl4]− has tetrahedral geometry. [Co(en)(NH3)2Cl2]+has 2 geometrical isomers. [FeCl4]− has a higher spin-only magnetic moment than [Co(en)(NH3)2Cl2]+. The cobalt ion in [Co(en)(NH3)2Cl2]+ has s?3? 2 hybridization. Ans: 1, 3 Question 19: In the reaction scheme shown below, Q, R, and S are the major products. The correct structure of Ans: b, d. Chemistry has a lot of comparable definitions, formulas, different preparation methods, equations, solutions, balancing equations, various substances and their properties, and so on. The topic is relatively broad, with many other topics and subtopics. Because of the interconnectedness of these topics, chemistry is complicated. For candidates who are unsure where to start, here are a few key Chemistry concepts to get them started on the Chemistry JEE Advanced paper: Here are some of the frequently asked questions on JEE Advanced Chemistry questions in the below-mentioned section: Q: Which topic is the most important for JEE Advanced Chemistry? Ans: The most important chapters for JEE Advanced Chemistry are Molecular Orbital Theory, Haloalkanes, Liquid and Gaseous State, Nuclear and Surface Chemistry, and Alcohol and Ether. Q: Where can I get important questions for JEE Advanced Chemistry? Ans: We have provided all the important Chemistry questions for JEE Advanced here on this page. Q: Can I clear the JEE Advanced exam by just studying Chemistry? Ans: You must practice questions from all subjects to get high marks in the JEE Advanced exam. Q: How does practising JEE Advanced previous year's paper help me clear the exam? Ans: Previous year papers help candidates understand the important topics, types of questions asked in the exam, and weightage of marks. All of these help candidates to get more marks. Q: When will the JEE Advanced exam be conducted? Ans: The JEE Advanced exam will likely be conducted on May 18, 2025. Related Links: We hope that this information on the Chemistry questions of JEE Advanced 2025 has helped you. If you have any queries, you can visit our website and write to us with your queries. We will assist you in the best way possible. Stay tuned to Embibe for the latest news and updates on JEE Advanced 2025. Know about Physics WallahPhysics Wallah is an Indian edtech platform that provides accessible & comprehensive learning experiences to students from Class 6th to postgraduate level. We also provide extensive NCERT solutions, sample paper, NEET, JEE Mains, BITSAT previous year papers & more such resources to students. Physics Wallah also caters to over 3.5 million registered students and over 78 lakh+ Youtube subscribers with 4.8 rating on its app.We Stand Out becauseWe provide students with intensive courses with India's qualified & experienced faculties & mentors. PW strives to make the learning experience comprehensive and accessible for students of all sections of society. We believe in empowering every single student who couldn't dream of a good career in engineering and medical field earlier.Our Key Focus AreasPhysics Wallah's main focus is to make the learning experience as economical as possible for all students. With our affordable courses like Lakshya, Udaan and Arjuna and many others, we have been able to provide a platform for lakhs of aspirants. From providing Chemistry, Maths, Physics formula to giving e-books of eminent authors like RD Sharma, RS Aggarwal and Lakhmir Singh, PW focuses on every single student's need for preparation.What Makes Us DifferentPhysics Wallah strives to develop a comprehensive pedagogical structure for students, where they get a state-of-the-art learning experience with study material and resources. Apart from catering students preparing for JEE Mains and NEET, PW also provides study material for each state board like Uttar Pradesh, Bihar, and others Written By Saif Ansari Last Modified 14-02-2025 JEE Advanced 2025 Important Chapters: IIT kanpur will conduct the JEE Advanced exam on May 18, 2025. Since the examination is just around the corner — the more you study, the less it seems, candidates must be equipped with a good exam-taking strategy and be well acquainted with the important JEE Advanced chapters (topics), as they will help candidates secure good marks in the exam. Along with important chapters, candidates can attempt mock tests on Embibe using the step-by-step procedure below to boost the exam's accuracy and speed. Continue reading to find out more on JEE Advanced chapter-wise weightage. JEE Advanced Latest Updates:– IIT Kanpur has announced the JEE Advanced 2025 important dates. Since JEE Advanced is just around the corner, you should prepare for it using the IIT JEE important chapters given on this page. Here is the list of the most important chapters for the JEE Advanced 2025 exam that candidates can learn and practice to score the highest marks. Additionally, in the table below, we have added a link to the mock test series for candidates to practice these topics/chapters. The table below focuses on the JEE Advanced important chapters for Physics: Candidates can go through the table below to learn the important chapters in chemistry for JEE Advanced: The following table provides the list of important chapters of Maths in JEE Advanced: Mathematics Important Topics for JEE Advanced 2025Relations And FunctionsInverse Trigonometric FunctionsMatricesDeterminantsContinuity And DifferentiabilityApplication Of DerivativesIntegralsApplication Of Integrals While NCERT is the essential reference book for IIT JEE Advanced preparation, here are some of the best books to prepare for the JEE Advanced exam. NCERT Textbooks for Physics – NCERT Concepts of Physics Vol 1 and Vol 2 – HC Verma Fundamentals of Physics – Halliday & Resnick NCERT Textbooks for Chemistry – NCERT A textbook of Physical Chemistry – Dr R.K Gupta A textbook of Organic Chemistry – Dr O.P. Tandon NCERT Textbooks for Mathematics – NCERT Objective Mathematics Vol 1 and Vol 2 – R.D. Sharma Complete Mathematics (TMH) – Ravi Prakash, Ajay Kumar, Usha Gupta Check the list of top engineering colleges that accept JEE Main, JEE Advanced, and other engineering entrance exam scores for admission. Here, we have provided the answers to some frequently asked questions by the aspirants about important topics for JEE Advanced. Q: When will the JEE Advanced 2025 be conducted? Ans: IIT Kanpur will conduct the JEE Advanced 2025 exam on May 18, 2025. Q: Where can I get JEE Advanced mock tests for? Ans: Aspirants can get a JEE Advanced mock test on Embibe. These mock tests feature a personalised approach that helps candidates keep track of their progress or performance; that way, they can score the highest marks in the exam. Q: What are important chapters for JEE Advanced Chemistry section? Ans: Some of the important topics in JEE Advanced Chemistry section are Alcohols and Ethers, Atomic Structure, P – Block Elements, Electrochemistry, Coordination Compounds, Biomolecules and Polymers, Carbonyl Compounds- Aldehydes and Ketones, Chemical Bonding and molecular structure, General Organic Chemistry, Haloalkanes, Haloarenes and Phenols. Q: Is NCERT enough for JEE Advanced preparation? Ans: Well, the short answer is 'No'. As the name suggests, JEE Advanced demands advanced preparation for the test. In addition, conceptual questions in the test require added attention. Therefore, candidates will need to consult additional books for the exam. Q: Is there any negative marking in paper 1 and 2 of the JEE Advanced 2025. Important links: We hope the above article has answered all your doubts and queries. Embibe wishes you good luck and all the best for JEE Advanced. Stay tuned to Embibe to get the latest news and updates! JEE Advanced, short for "Joint Entrance Examination Advanced," is a prestigious and highly competitive engineering entrance examination conducted in India. It is the second stage of the two-part JEE exam process, with the first stage being JEE Main. A student can only appear for JEE Advanced after qualifying JEE Mains by being in top 2,50,000 students. The exam not only offers admission to the top-tier engineering colleges of India, such as the Indian Institute of Technology (IITs), but also various other institutions, such as: Indian Institute of Science, Bengaluru Indian Institutes of Science Education and Research (IISERs) located in Berhampur, Bhopal, Kolkata, Mohali, Pune, Thiruvananthapuram, and Tirupati. Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Rae Bareli Indian Institute of Petroleum & Energy (IIPE), Visakhapatnam JEE Advanced 2024: Exam Highlights: Particulars Details Exam Name JEE Advanced Conducted By: Joint Admission Board 2024 Number of Papers 2 Test Duration Paper- I: 3 hrs Paper- II: 3 hrs Exam Month June (after JEE Main Results) Maximum Marks Paper- I: 183 Paper- II: 183 Total: 306 Subjects Paper- I: Physics, Chemistry, Mathematics Paper- II: Physics, Chemistry, Mathematics Mode of Examination Computer-Based Test (CBT) Mode Number of Centres 321 Cities (Divided in 7 IIT Zones) Eligibility Criteria of JEE Advanced 2024: To appear in JEE Advanced 2024, all the students have to fulfil the below-mentioned criteria: Criterion 1 – Performance in JEE (Main) 2024: Candidates should be among the top 2,50,000 successful candidates (including all categories) in B.E./B.Tech. paper of JEE (Main) 2024. The percentages of various categories of candidates to be shortlisted are 10% for GEN-EWS, 27% for OBC-NCL, 15% for SC, 7.5% for ST, and the remaining 40.5% is OPEN for all. Within each of these five categories, a 5% horizontal reservation is available for PwD candidates. The following table shows the order to be followed while choosing the top 2,50,000 candidates in various categories based on their performance in B.E./B.Tech. paper of JEE (Main) 2024. Category-wise distribution of top 2,50,000* candidates (Criterion 1) Order Category Number of "Top" candidates 1 OPEN 96187 101250 2 OPEN-PwD 5063 3 GEN-EWS 23750 25000 4 GEN-EWS-PwD 1250 5 OBC-NCL 64125 67500 6 OBC-NCL-PwD 3375 7 SC 35625 37500 8 SC-PwD 1875 9 ST 17812 18750 10 ST-PwD 938 Criterion 2 – Age limit: The student should have been born on or after October 1, 1999. Five years of age relaxation is given to SC, ST, and PwD candidates, i.e. these candidates should have been born on or after October 1, 1994. Criterion 3 – Number of Attempts: A student can attempt JEE (Advanced) a maximum of two times in two consecutive years. Criterion 4 – Appearance in Class XII (or equivalent) examination*: A candidate should have appeared for the Class XII (or equivalent) examination for the first time in either 2023 or 2024 with Physics, Chemistry, and Mathematics as compulsory subjects. Candidates who had appeared in Class XII (or equivalent) examination for the first time in 2022 or earlier are NOT eligible to appear in JEE (Advanced) 2023, irrespective of the combination of subjects attempted/offered. * By appearance in Class XII (or equivalent) examination, it is meant that the Board concerned declared the result for that year irrespective of whether or not the examination was conducted. Criterion 5 – Earlier Admission at IITs: A candidate should NOT have been admitted to an IIT irrespective of whether or not the candidate continued in the program OR accepted an IIT seat by reporting "online" / at a "reporting centre" in the past. Candidates whose admission to IITs was cancelled (for whatever reason) after joining any IIT are also NOT eligible to appear for JEE (Advanced) 2024. Candidates who have been admitted to a preparatory course in any of the IITs for the first time in 2023 can appear in JEE (Advanced) 2024. The candidates who were allocated a seat in an IIT through JoSAA 2023 but (i) did not report "online" / at any "reporting centre" OR, (ii) withdrew before the last round of seat allotment, OR, (iii) had their seat cancelled (for whatever reason) before the last round of seat allotment for IITs, are eligible to appear for JEE (Advanced) 2023. Supernumerary Seats for Female & Foreign Nationals: As per the directions of the Ministry of Education, Government of India, and the decision by the IIT Council, supernumerary seats have been created for female candidates to improve the gender balance in the undergraduate programs in IITs. These supernumerary seats will be offered: to only those female candidates (Indian nationals and OCI/PIO candidates) who are declared qualified in JEE (Advanced) 2024 and strictly based on their performance in JEE (Advanced) 2024. The number of supernumerary seats in various programs will be decided by individual IITs ensuring that every institute has at least 20% female enrolment in undergraduate program(s). The detailed procedure for implementation of the above shall be set out in the Business Rules of JoSAA 2024 (which will be made available subsequently on). Important Guidelines for Foreign Nationals & OCI/PIO Card Holders: Students who are NOT citizens of India (by birth or naturalised) (but not OCI/PIO candidates) shall be considered as foreign nationals. Such foreign national candidates will be provided with a supernumerary cap of 10% of the total number of seats in every course. The ambit of reservation of seats under the GEN-EWS, OBC-NCL, SC, ST, and PwD categories/sub-categories does not apply to these students. There are no separate supernumerary seats. The foreign national candidates, at the time of registering for JEE Advanced 2024, are NOT required to write JEE Main 2024 and may register for JEE Advanced directly subject to fulfilment of other eligibility criteria. OCI/PIO Candidates: As per the decision of the Government of India, the OCI/PIO candidates shall be considered Indian nationals. Exam Pattern for JEE Advanced 2024: JEE Advanced Paper-I Pattern (As per the Previous Year Pattern): Section & Question Type No. of Marks No. of Questions Section 1 (MCQs with Single Correct Option) 18 6 Section 2 (Single Correct Option) 24 6 Section 3 (Numerical Value Answer) 24 6 JEE Advanced Paper-II Pattern (As per the Previous Year Pattern): Section & Type of questions No. of questions Maximum Marks Section 1 (MCQs with 1 or more than 1 correct answer) 6 24 Section 2 (Numerical Value answer type questions) 6 24 Section 3 (Single digit integer answer (0-9) 6 18 Exam Syllabus for JEE Advanced 2024: JEE Advanced 2024: Physics Syllabus JEE Advanced 2024: Chemistry Syllabus JEE Advanced 2024: Mathematics Syllabus Chapter Wise Weightage for JEE Advanced 2024: Topic-Wise Weightage for JEE Advanced 2024 Paper-I Physics: Unit 1: Electrodynamics: 28 Marks (22.58%) Topic Marks Weightage in % Capacitance 6 4.84% Current Electricity 8 6.45% Electromagnetic Field 3 2.42% Electromagnetic Induction 11 8.87% Unit 2: Heat & Thermodynamics: 16 Marks (12.90%) Topic Marks Weightage in % Calorimetry & Thermal Expansion 3 2.42% Heat Transfer 10 8.06% KTG & Thermodynamics 3 2.42% Unit 3: Mechanics: 31 Marks (25.00%) Topic Marks Weightage in % Circular Motion 6 4.84% Elasticity & Viscosity 3 2.42% Error in Measurement 7 5.65% Rigid Body Dynamic 11 8.87% Unit 4: Dimension 4 3.23% Unit 4: Modern Physics: 23 Marks (18.55%) Topic Marks Weightage in % Modern Physics 23 18.55% Unit 5: Optics: 18 Marks (14.52%) Topic Marks Weightage in % Geometrical Optics & Physical Optics 14 11.25% Wave Optics 4 3.23% Unit 6: SHM & Waves: 8 Marks (6.45%) Topic Marks Weightage in % SHM 4 3.23% Sound Waves 4 3.23% Topic-Wise Weightage for JEE Advanced 2024 Paper-I Chemistry: Organic Chemistry – Topic Marks Chemical Bonding 8 Coordination Compounds 6 Metallurgy 4 P-Block 11 Qualitative Analysis 7 Total 36 Inorganic Chemistry – Topic Marks Amines 11 Aromatic Compounds 6 Biomolecules 4 Carbonyl compounds 3 General Organic Chemistry 6 Polymers 7 Stereoisomerism 6 Total 45 Physical Chemistry – Topic Marks Atomic Structure & Nuclear Chemistry 3 Chemical Equilibrium 6 Chemical Kinetics 8 Electrochemistry 3 Gaseous State 3 Mole Concept 9 Solution & Colligative Properties 4 Surface Chemistry 3 Solid State 4 Total 43 Topic-Wise Weightage for JEE Advanced 2024 Paper-I Mathematics: Topic Marks Binomial Theorem 3 Complex Numbers 7 Coordinate Geometry 18 Differential & Integral Calculus 38 Fundamentals of Mathematics 5 Probability 9 Matrices 14 Permutation & Combination 3 Quadratic Equation 3 Sequence & Series 3 Trigonometry 10 Vector & 3D 11 Topic-Wise Weightage for JEE Advanced 2024 Paper-II Physics: Important Topic Weightage Alternating Current 6-7% Centre of Mass, Momentum, and Collision 6-7% Electromagnetic Induction 21-22% Fluid Mechanics 11-12% Heat Transfer 6-7% Modern Physics 9-10% Optics 11-12% Thermodynamics 14-15% Sound Waves: 4-5% Wave Motion and String Waves 6-7% Topic-Wise Weightage for JEE Advanced 2024 Paper-II Chemistry: Important Topic Weightage Aldehydes, Ketones and Carboxylic Acids 14-15% Atomic Structure 14-15% Chemical Bonding 4-5% Coordination Compounds 4-5% Electrochemistry 4-5% Hydrocarbons 13-14% Organic Chemistry 11-12% P-Block Elements 13-14% Solid State 4-5% Solutions 6-7% Thermodynamics 6-7% Topic-Wise Weightage for JEE Advanced 2024 Paper-II Mathematics: Important Topic Weightage Application of Derivatives 14-15% Complex Numbers 6-7% Circles 9-10% Definite Integral 11-12% Ellipse 4-5% Hyperbola 6-7% Limits and Continuity 6-7% Matrices 11-12% Parabola 11-12% Probability 6-7% Permutations and Combinations 4-5% Sequence and Series 4-5% Important Topics & Weightage for JEE Advanced Paper- 2 Physics: Important Topic Weightage Alternating Current 6-7% Capacitors 9-10% Current Electricity 6-7% Electrostatics 6-7% Gravitation 4-5% Kinematics 4-5% Magnetism 11-12% Measurement and Errors 4-5% Modern Physics 4-5% Rotational Dynamics 29-30% Vectors 4-5% Wave Optics 5-6% Important Topics & Weightage for JEE Advanced Paper- 2 Chemistry: Important Topic Weightage Alcohols, Phenols and Ethers 9-10% Chemical Kinetics 6-7% Electrochemistry 4-5% Equilibria and Chemical Processes 6-7% Haloalkanes and Haloarenes 6-7% Hydrocarbons 6-7% Organic Compounds Containing Nitrogen 9-10% P-Block Elements 22-23% Solutions 4-5% Some P-Block Elements 6-7% Study of First Element: Hydrogen 4-5% Surface Chemistry 6-7% Thermodynamics 4-5% Important Topics & Weightage for JEE Advanced Paper- 2 Mathematics: Important Topic Weightage 3D Geometry 20-21% Application of Derivatives 19-20% Area of Bounded Regions 6-7% Definite Integrals 13-14% Differential Equations 4-5% Limits and Continuity 6-7% Matrices 4-5% Probability 4-5% Sets, Relations and Functions 4-5% Theory of Equations 9-10% Trigonometry 6-7% What is JEE Advanced AAT? JEE Advanced AAT, or the "Architecture Aptitude Test" for JEE Advanced, is an examination conducted for candidates who aspire to secure admission into the Bachelor of Architecture (B.Arch.) programs offered by the Indian Institutes of Technology (IITs) across India. The AAT is a specialised test designed to assess a candidate's aptitude for architectural studies and their creative and design skills. Eligibility for AAT 2024: Only candidates who have qualified JEE Advanced are eligible to appear for the AAT exam. Candidates must also meet additional eligibility criteria specific to the architecture program of the IITs. Exam Format for AAT 2024: The AAT exam is usually a paper-based test where candidates are required to solve architectural design problems, draw sketches, and provide creative solutions to given scenarios. It assesses the candidate's visual perception, logical reasoning, and architectural awareness. Exam Duration for AAT 2024: The AAT exam is typically of short duration, ranging from a few hours to half a day, depending on the specific instructions provided for the year's exam. Exam Syllabus for AAT 2024: The syllabus for the AAT exam covers topics related to architectural design, visual perception, creativity, and basic architectural concepts. Conclusion: In essence, JEE Advanced is a rigorous examination that aims to identify the most talented and capable candidates for admission into the top engineering institutes in India. It requires extensive preparation, a strong foundation in science and mathematics, critical thinking abilities, and the ability to handle complex problem-solving under pressure. Disclaimer: The above-shared details are as per analysis made by the ALLEN Experts on previous year trends. These trends may be subject to update or change as per the interim decision of organising body. For the latest information, we request the students kindly refer to its official website. JEE Advanced 2025 Chemistry is crucial for IIT admission. Prioritizing high-weightage Class 11 and 12 topics can help them to ace the JEE Advanced examination. Effective preparation involves following the syllabus, starting with NCERT, using standard books, and regularly solving mock tests and past papers. Conceptual understanding and time management are vital for success. Important Topics & Reactions for JEE Advanced Chemistry 2025 Exam JEE Advanced 2025 Chemistry is an important section of one of the most challenging entrance exams globally. After passing this exam students can get admission to the best IITs. A smart method starts with knowing the weightage of subjects—prioritizing those that can secure higher marks according to previous year trends allows JEE aspirants to manage their time better.Chemistry has a well-balanced combination of Class 11 and 12 topics with high-weightage sections like Phenols, Coordination Compounds, Chemical Kinetics, and Thermodynamics. Key reactions like aldol condensation, Friedel-Crafts, and Cannizzaro are frequently asked. To study effectively, students must adhere to the official syllabus, start with NCERT, use standard books and solve mock tests and past papers at regular intervals. Understanding concepts thoroughly and time management are the most important factors in cracking JEE Advanced 2025.Based on the previous year's analysis of JEE Advanced question paper, here are the most important JEE Advanced topics for Chemistry: 2 6 5% 1 4 3% 1 3 3% 1 3 3% 3 10 8% 1 4 3% 2 8 7% 1 3 3% 1 4 3% 1 3 3% 1 3 3% 1 4 3% 1 4 3% Chemical Bonding and Molecular Structure 3 12 10% p-Block Elements (Group 13 & 14) 2 7 6% 3 10 8% Basic Principles of Organic Chemistry 1 3 3% 3 10 8% Chemical and Ionic Equilibrium 2 7 6% 1 4 3% States of Matter: Gases and Liquids 1 4 3% 1 4 3% Total 34 120 100% Check: JEE Advanced Syllabus 2025 Download PDF Check Subject Wise Important Topics, Weightage & Books JEE Advanced 2025: Chemistry Must-Know Reactions General Organic Chemistry (GOC): Inductive and resonance effects, hyperconjugation, and acidity/basicity trends Aldehydes & Ketones: Nucleophilic addition reactions (e.g., HCN, NH₃), aldol condensation, Cannizzaro reaction, and haloform reaction. Alcohols, Phenols & Ethers: Reactions like Williamson's synthesis, oxidation, and electrophilic substitution in phenols. Amines: Hofmann rearrangement, Gabriel synthesis, and diazotization reactions. Named Reactions: Reactions such as Sandmeyer, Clemmensen, Wolff-Kishner, and Friedel-Crafts. How to Prepare the Important Topics for JEE Advanced 2025 Chemistry?JEE Advanced Chemistry demands thorough preparation due to its intricate nature. This guide provides an effective approach to handle key topics. Know the Syllabus & What's Important: Download the official syllabus and check which topics are most important. Focus more on topics that carry higher marks. Use the Best Study Material: Start with NCERT Chemistry, then use Morrison & Boyd and Solomon & Fryhle for deeper understanding. Try MS Chauhan and Himanshu Pandey for solving Organic Chemistry problems. Watch YouTube videos or use learning apps for tricky topics. Solve them to understand the exam pattern and frequently asked questions. Make a Study Plan: Divide your time based on how tough or important a topic is. Set weekly and monthly goals. Don't forget to keep time for revision! Practice is the Key: Take mock tests and solve old papers. After each test, see where you made mistakes and improve. Practice different kinds of questions—numerical, theory-based, and reasoning. Understand, Don't Just Memorize: Learn the concepts behind reactions and formulas. Use diagrams and visual tricks to understand complex ideas better. Apply your knowledge to solve real problems. Clear Your Doubts Quickly: Ask teachers or friends when you're stuck. Use online doubt-solving forums if needed. Group study can also help understand topics from a new perspective. Manage Your Time Well: Stick to your study schedule. Avoid distractions like mobile and TV during study time. Practice solving papers within the time limit to improve speed. Check: JEE Advanced 2025 Physics Formula Sheet PDF P- BLOCK ELEMENTSGroup -13 to Group 18 Elements General Introduction: Electronic configuration and general trends in physical and chemical properties of elements across the periods and down the groups; unique behaviour of the first element in each group. Groupwise study of the p - block elementsGroup -13 Preparation, properties, and uses of boron and aluminum; Structure, properties, and uses of borax, boric acid, diborane, boron trifluoride, aluminum chloride, and alums.Group -14 The tendency for catenation; Structure, properties, and uses of Allotropes and oxides of carbon, silicon tetrachloride, silicates, zeolites, and silicones.Group -15 Properties and uses of nitrogen and phosphorus; Allotrophic forms of phosphorus; Preparation, properties, structure, and uses of ammonia, nitric acid, phosphine, and phosphorus halides, (PCl3, PCl5); Structures of oxides and oxoacids of nitrogen and phosphorus.Group -16 Preparation, properties, structures, and uses of ozone: Allotropic forms of sulphur; Preparation, properties, structures, and uses of sulphuric acid (including its industrial preparation); Structures of oxoacids of sulphur.Group-17 Preparation, properties, and uses of hydrochloric acid; Trends in the acidic nature of hydrogen halides; Structures of Interhalogen compounds and oxides and oxoacids of halogens.Group-18 Occurrence and uses of noble gases; Structures of fluorides and oxides of xenon. Sukriti DeoContent Writer | Updated On - Aug 31, 2024 Particulars Details Name of Exam JEE Advanced 2025 Mode Computer Based Test (online) Purpose Criteria for Undergraduate Admissions to IITs Duration Paper 1 (3 hours) Paper 2 (3 hours) JEE Advanced 2025 Exam Date May 2024 (tentative) Frequency of exam Once a year Official website jeeadv.ac.in It is essential to develop an effective preparation strategy to achieve decent marks, succeed in the examination and gain admission to the prestigious IITs. Thus, it is necessary to have a strong understanding of the syllabus. The Chemistry syllabus of IIT JEE Advanced is considered to be the lengthiest. However, owing to several fact-based questions in the form of reactions, etc it also becomes the easiest. You should have a thorough understanding of the Chemistry syllabus to optimise your preparation strategy. Refer to the tables below for the details of the Chemistry syllabus of JEE Advanced 2025. Physical Chemistry Chapters Units General topics Concept of atoms and molecules; Dalton's atomic theory; Mole concept; Chemical formulae; Balanced chemical equations; Calculations (based on mole concept) involving common oxidation-reduction, neutralisation, and displacement reactions; Concentration in terms of mole fraction, molarity, molality and normality. Gaseous and liquid states Absolute scale of temperature, ideal gas equation; Deviation from ideality, van der Waals equation; Kinetic theory of gases, average, root mean square and most probable velocities and their relation with temperature; Law of partial pressures; Vapour pressure; Diffusion of gases. Atomic structure and chemical bonding Bohr model, spectrum of hydrogen atom, quantum numbers; Wave-particle duality, de Broglie hypothesis; Uncertainty principle; Qualitative quantum mechanical picture of hydrogen atom, shapes of s, p and d orbitals; Electronic configurations of elements (up to atomic number 36); Aufbau principle; Pauli's exclusion principle and Hund's rule; Orbital overlap and covalent bond; Hybridisation involving s, p and d orbitals only; Orbital energy diagrams for homonuclear diatomic species; Hydrogen bond; Polarity in molecules, dipole moment (qualitative aspects only); VSEPR model and shapes of molecules (linear, angular