CBSE Class 11 Chemistry Updated Syllabus

CBSE Chemistry Class 11 Syllabus Course Structure

The table below shows the course structure and the distribution of marks in the updated CBSE Class 11 Chemistry Syllabus.

S.No.	Unit	No. of Periods	Marks
1	Some Basic Concepts of Chemistry	12	7
2	Structure of Atom	14	9
3	Classification of Elements and Periodicity in Properties	8	6
4	Chemical Bonding and Molecular Structure	14	7
5	Chemical Thermodynamics	16	9
6	Equilibrium	14	7
7	Redox Reactions	6	4
8	Organic Chemistry: Some Basic Principles and Techniques	14	11
9	Hydrocarbons	12	10

Total		110	70

Quick Overview of CBSE Chemistry Class 11 Syllabus

The CBSE Chemistry Class 11 Syllabus provides interesting chapters and topics. It starts with the basic concepts of chemistry and later into complex ideas. Check out the table below for a breakdown of what you'll be learning in each unit.

Unit	Chapter	Topics
I	Some Basic Concepts of Chemistry	General Introduction, Laws of chemical combination, Dalton's atomic theory, Atomic and molecular masses, Mole concept, Chemical reactions, Stoichiometry
II	Structure of Atom	Discovery of subatomic particles, Atomic numbers, Isotopes and isobars, Atomic models (Thomson, Rutherford, Bohr), Dual nature of matter, Quantum numbers, Orbital shapes, Electron filling rules, Electronic configuration
III	Classification of Elements and Periodicity in Properties	Periodic table, Periodic trends (atomic radii, ionisation enthalpy, electron gain enthalpy, electronegativity, valency)
IV	Chemical Bonding and Molecular Structure	Valence electrons, Ionic bonds, Covalent bonds, Bond parameters, Lewis structures, VSEPR theory, Hybridization, Molecular orbital theory (qualitative), Hydrogen bonding
V	Thermodynamics	Systems and surroundings, Work, Heat, Energy, State functions, First law of thermodynamics (internal energy, enthalpy, heat capacity), Hess's law, Enthalpy changes (bond dissociation, combustion, formation, etc.), Second law (brief introduction - entropy), Third law (brief introduction)

VI	Equilibrium	Physical and chemical equilibrium, Law of mass action, Equilibrium constant, Le Chatelier's principle, Ionic equilibrium (acids & bases, strong & weak electrolytes, pH, hydrolysis, buffer solutions), Solubility product, Common ion effect
VII	Redox Reactions	Oxidation, reduction, Redox reactions, Oxidation number balancing
VIII	Organic Chemistry - Some Basic Principles and Techniques	Introduction, Purification methods, Classification & IUPAC nomenclature, Electronic effects (inductive, electromeric, resonance, hyperconjugation), Bond fission (homolytic, heterolytic), Free radicals, Carbocations, Carbanions, Electrophiles, Nucleophiles, Types of organic reactions
IX	Hydrocarbons	Classification, Nomenclature, Isomerism, Conformation (alkanes only), Physical properties, Chemical reactions (halogenation, combustion, pyrolysis for alkanes; addition reactions for alkenes & alkynes; electrophilic substitution for aromatics)

Class 11 Chemistry Practical Syllabus

Get the latest updates about the Lab experiments! Here's the CBSE Class 11 Chemistry Practical Syllabus:

Micro-chemical methods are available for several practical experiments, wherever possible such techniques should be used.

A. Basic Laboratory Techniques

1. Cutting glass tube and glass rod

2. Bending a glass tube

3. Drawing out a glass jet

4. Boring a cork

B. Characterisation and Purification of Chemical Substances

1. Determination of the melting point of an organic compound.

2. Determination of the boiling point of an organic compound.

3. Crystallisation of impure samples of any one of the following: Alum, Copper Sulphate, Benzoic Acid.

C. Experiments based on pH

a) Any one of the following experiments:

• Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases, and salts using pH paper or universal indicator.

• Comparing the pH of solutions of strong and weak acids of the same concentration. Study the pH change in the titration of a strong base using a universal indicator.

b) Study the pH change by common-ion in case of weak acids and weak bases.

D. Chemical Equilibrium

One of the following experiments:

a) Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.

b) Study the shift in equilibrium between [Co(H2O)6]2+ and chloride ions by changing the concentration of either of the ions.

E. Quantitative Estimation

i. Using a mechanical balance/electronic balance.

ii. Preparation of standard solution of Oxalic acid.

iii. Determination of strength of a given solution of Sodium hydroxide by titrating it against a standard solution of Oxalic acid.

iv. Preparation of standard solution of Sodium carbonate.

v. Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

F. Qualitative Analysis

a) Determination of one anion and one cation in a given salt Cations- Pb^{2+}, $Cu^{2+,}$ As^{3+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Ni^{2+}, Zn^{2+}, Co2,$^{+}$ Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, $NH4^{+}$

Anions – $CO3^{2--}$, S^{2-} , $NO^{2\,-}$, $SO3^{\,2--}$, $SO4^{\,2-}$, $NO^{3\,-}$, Cl- , Br-, I-, $PO4^{\,3-}$, CH3COO- (Note: Insoluble salts excluded)

CBSE Class 11 Chemistry Practical Syllabus - Marking Scheme

This table explains how the 30 marks for your Class 11 Chemistry practical exam (lasting 3 hours) will be divided. It shows what aspects of your performance will be evaluated.

Component	Marks
Volumetric Analysis	8
Salt Analysis	8
Content-Based Experiment	6
Project Work	4
Class Record and Viva	4

Total	30

CBSE Chemistry Class 11 Syllabus - (043) Question Paper Design

The Central Board of Secondary Education (CBSE) has released the question paper design for the upcoming academic year Chemistry exam for Class 11 (code 043). This breakdown outlines the format and types of questions you can expect for the test.

Domain	Marks	Percentage
Remembering and Understanding Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organising, comparing, translating, interpreting, giving descriptions, and stating main ideas	28	40%
Applying Solve problems in new situations by applying acquired knowledge, facts, techniques, and rules in a different way.	21	30%
Analysing, Evaluating, and Creating Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalisations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	21	30%

Prescribed Books for Chemistry Class 11:

1. Chemistry Part – I, Class-XI, Published by NCERT

2. Chemistry Part – II, Class-XI, Published by NCERT