

Chemistry syllabus comparison

What 157 Indian universities and institutes teach in chemistry: what is common, what differs, and what each leaves out. Prepared from the institutes' own official syllabus files. 4ab.in / ABC Chemistry - 25 Oct 2026.

How to read this. A fixed keyword list of 53 chemistry topics, in 5 branches, was checked against each syllabus; a topic counts if it appears at least 4 times on chemistry pages. It shows what a syllabus mentions, not how deep it goes. 200 institutes were left out (scans, index pages or too little chemistry text); some syllabi are one big file for all programmes. Core = 80%+ of syllabi, Common = 55-79%, Specialised = below 55%. Branch columns show how many topics the institute covers: Inorganic /12, Organic /12, Physical /12, Analytical /7, Applied /10.

1. Topic coverage across all syllabi

Inorganic (12 topics)

Topic	Institutes	Share	Level
Organometallic chemistry & catalysis	141/157	90%	Core
d- and f-block / lanthanides	139/157	89%	Core
Coordination chemistry	136/157	87%	Core
Chemical bonding (VSEPR, MO theory)	131/157	83%	Core
Main group elements & compounds	130/157	83%	Core
Solid state & inorganic materials	127/157	81%	Core
Bioinorganic chemistry	120/157	76%	Common
Spectra & magnetism of complexes	116/157	74%	Common
Nuclear & radiochemistry	94/157	60%	Common
Atomic structure & periodicity	71/157	45%	Specialised
Cluster & supramolecular inorganic	69/157	44%	Specialised
Acids, bases & HSAB	51/157	32%	Specialised

Organic (12 topics)

Topic	Institutes	Share	Level
Basic concepts & stereochemistry	152/157	97%	Core
Reactive intermediates & mechanisms	152/157	97%	Core
Carbonyl, alcohols, phenols, amines	152/157	97%	Core
Biomolecules (carbohydrates, amino acids, nucleic acids)	149/157	95%	Core
Polymers & dyes	145/157	92%	Core
Aromaticity & aromatic chemistry	141/157	90%	Core
Name reactions & rearrangements	142/157	90%	Core
Pericyclic & photochemistry	128/157	82%	Core
Natural products	122/157	78%	Common
Heterocyclic chemistry	121/157	77%	Common
Substitution, elimination, addition	120/157	76%	Common
Reagents & synthetic methods	85/157	54%	Specialised

Physical (12 topics)

Topic	Institutes	Share	Level
Thermodynamics	152/157	97%	Core
Electrochemistry	146/157	93%	Core

Surface chemistry & catalysis	145/157	92%	Core
Photochemistry & radiation	144/157	92%	Core
Chemical kinetics	143/157	91%	Core
Quantum chemistry	137/157	87%	Core
Molecular spectroscopy	129/157	82%	Core
Group theory & symmetry	109/157	69%	Common
Statistical thermodynamics	103/157	66%	Common
Chemical equilibrium & phase rule	83/157	53%	Specialised
Gaseous state & kinetic theory	68/157	43%	Specialised
Solutions & colligative properties	56/157	36%	Specialised

Analytical & spectroscopy (7 topics)

Topic	Institutes	Share	Level
Volumetric & gravimetric analysis	134/157	85%	Core
Atomic spectroscopy & electroanalytical	134/157	85%	Core
UV-Vis & IR spectroscopy	132/157	84%	Core
NMR, ESR & mass spectrometry	132/157	84%	Core
Chromatography & separation	131/157	83%	Core
Analytical chemistry basics (errors, statistics)	119/157	76%	Common
Thermal & surface analysis	117/157	75%	Common

Applied & interdisciplinary (10 topics)

Topic	Institutes	Share	Level
Industrial chemistry & chemical technology	130/157	83%	Core
Medicinal chemistry & drugs	116/157	74%	Common
Mathematics, computers & research methods	115/157	73%	Common
Biochemistry & molecular biology	110/157	70%	Common
Nanochemistry & materials	106/157	68%	Common
Environmental chemistry	100/157	64%	Common
Green & sustainable chemistry	96/157	61%	Common
Computational chemistry	56/157	36%	Specialised
Food, cosmetic & forensic chemistry	52/157	33%	Specialised
Chemistry of energy & batteries	50/157	32%	Specialised

2. General aptitude in the exams

Topic group	CSIR-UGC NET	GATE Chemistry (CY)	UGC NET Paper 1 (Teaching and Research Aptitude)	CUET (UG) General Test	KVS/NVS PGT Chemistry (CBSE Rectt. Notification 01/2025)
Logical reasoning	✓	✓	✓	✓	–
Numerical ability	✓	✓	✓	✓	✓
Data interpretation	✓	✓	✓	–	–
Verbal ability	–	✓	–	–	–
Spatial aptitude	–	✓	–	–	–
Teaching aptitude	–	–	✓	–	–
Research aptitude	–	–	✓	–	–
Comprehension	–	–	✓	–	–

Communication	–	–	✓	–	–
ICT	–	–	✓	–	–
Environment	–	–	✓	–	–
Higher education system	–	–	✓	–	–
General knowledge and current affairs	–	–	–	✓	–
General science	–	–	–	✓	–
General reasoning	–	–	–	–	–
Computer literacy	–	–	–	–	✓
General knowledge	–	–	–	–	✓

CSIR-UGC NET Chemical Sciences - Part A - General Aptitude

20 questions, answer any 15 (2 marks each) | 30 of 200

Logical reasoning: Logical reasoning; Series formation; Puzzles

Numerical ability: Analytical and numerical ability; Quantitative comparison

Data interpretation: Graphical analysis

Source: <https://csirnet.nta.ac.in/images/information-bulletin-of-csir-june-2025.pdf> - Official bulletin (June 2025, sec 3.2) lists the Part A emphasis as: logical reasoning, graphical analysis, analytical and numerical ability, quantitative comparison, series formation, puzzles. The CSIR-HRDG Chemical Sciences scheme page (<http://csirhrdg.res.in>)

GATE Chemistry (CY) - General Aptitude (GA)

15 of 100 (stated officially)

Verbal ability: English grammar; Vocabulary, idioms and phrases; Reading comprehension; Narrative sequencing

Numerical ability: Numerical computation and estimation; Mensuration and geometry; Elementary statistics and probability

Data interpretation: Data graphs, plots, maps and tables

Logical reasoning: Deduction and induction; Analogy; Numerical relations and reasoning

Spatial aptitude: Transformation of shapes; Paper folding, cutting and patterns

Source: https://gate2026.iitg.ac.in/doc/GATE2026_Syllabus/GA_2026_Syllabus.pdf - Latest official syllabus reachable is GATE 2026 (IIT Guwahati). The GATE 2027 site (gate2027.iitg.ac.in) did not open from this machine, so 2027 is unconfirmed. GA is common to all papers. Marks stated on <https://gate2026.iitg.ac.in/exam-papers-and-syllabus.html>

UGC NET Paper 1 (Teaching and Research Aptitude) - Paper I - General Paper on Teaching & Research Aptitude (compulsory for Chemical Sciences candidates)

50 questions | 100 (2 per question)

Teaching aptitude: Teaching concept and levels; Learner characteristics; Factors affecting teaching; Methods of teaching (online/offline); Teaching support systems; Evaluation systems

Research aptitude: Research meaning and types; Methods of research; Steps of research; Thesis and article writing; ICT in research; Research ethics

Comprehension: Passage-based questions

Communication: Types and characteristics of communication; Effective communication; Barriers to communication; Mass media and society

Numerical ability: Types of reasoning; Number and letter series, codes and relationships; Mathematical aptitude (fractions, ratio, percentage, profit and loss, interest, averages, time and distance)

Logical reasoning: Structure of arguments; Deductive and inductive reasoning; Analogies; Venn diagrams; Indian logic and pramanas

Data interpretation: Data sources and classification; Graphical representation; Data interpretation; Data and governance

ICT: ICT abbreviations and terminology; Internet, e-mail, video-conferencing; Digital initiatives in higher education;

ICT and governance

Environment: Development and environment (MDG/SDG); Environmental issues and pollution; Natural and energy resources; Natural hazards and disasters; Environmental laws and agreements

Higher education system: Ancient and post-independence higher education; Conventional and non-conventional learning; Professional, technical and skill education; Value and environmental education; Policies, governance and administration

Source: https://www.ugcnetonline.in/showPdf.php?p1=NTA_All_R_Syllabus/00-Paper-I/Paper-I_English.pdf - Official UGC syllabus PDF for Code 00 (10 units; 5 questions per unit). The NTA bulletin (<https://ugcnet.nta.ac.in/images/information-bulletin-for-ugc-net-june-2025-16042025.pdf>) points to [ugcnetonline.in](https://www.ugcnetonline.in) for syllabi. The ugcnet.nta.ac.in site fails TLS in the

CUET (UG) General Test - General Test (Code 501)

General knowledge and current affairs: General Knowledge; Current Affairs

Numerical ability: General Mental Ability; Numerical Ability (arithmetic, algebra, geometry, mensuration, statistics)

Logical reasoning: Logical and Analytical Reasoning

General science: General Science; Environment literacy

Source: <https://cdnbbsr.s3waas.gov.in/s3d1a21da7bca4abff8b0b61b87597de73/uploads/2025/12/20251227140287889.pdf> - Official CUET(UG) 2026 General Test syllabus PDF, linked from <https://cuets.nta.nic.in/cuetug-2026-syllabus/>. Question count and marks are not stated in the syllabus PDF. Chemistry is a separate domain subject.

KVS/NVS PGT Chemistry (CBSE Rectt. Notification 01/2025) - Tier-1 screening (common parts)

20 per part | 60 per part (3 marks each, one-third negative)

General reasoning:

Numerical ability: Numeric Ability

Computer literacy: Basic Computer Literacy

General knowledge: General Knowledge

Source: https://www.cbse.gov.in/cbsenew/documents/Detailed_Notification_KVS_NVS_2025_13112025.pdf - Official notification lists Tier-1 components (General Reasoning, Numeric Ability, Basic Computer Literacy, General Knowledge, plus English and one Indian language test; qualifying screening). No topic-wise syllabus for these parts was found. The Tier-2 PGT Ch

Exams with no general aptitude topics

- **CUET (PG) Chemistry (SCQP08):** No general aptitude / general awareness component. Official CUET(PG) syllabus for Chemistry says all questions are based on subject-specific knowledge. A separate Common/General Paper exists for other programmes (<https://exams.nta.nic.in/cuet-pg/syllabus/common/>) but was not extracted.
- **IIT JAM Chemistry (CY):** No general aptitude part. Official JAM 2026 CY syllabus has only chemistry sections plus a Basic Mathematical Concepts (10+2) section; no GA/aptitude section. JAM 2027 site did not open.
- **TIFR GS (Chemical Sciences):** Written test (no separate GA part found). Official one-paragraph syllabus mentions logic, statistics and mathematical methods alongside chemistry areas but no general aptitude component; no topic list. This PDF may be an older version of the GS-2027 text; the GS-2027 advertisement was not opened.
- **JEST:** No general aptitude part, and not a chemistry exam. JEST covers Physics and Theoretical Computer Science; the syllabus PDF opened has no GA section.
- **NEST:** No general aptitude part found in syllabus. NEST 2026 syllabus lists subject sections (biology, chemistry, mathematics, physics); no aptitude or reasoning section found by text search.
- **ICAR AICE-JRF/SRF and SET state exams:** Not covered. ICAR is an agriculture exam, not chemistry; exams.nta.ac.in/ICAR/ returned 404 and was not pursued. No state SET official site was opened, so none recorded.

3. Institute by institute

Central universities (19)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
Assam University M.Sc	10	12	11	6	8	Volumetric & gravimetric analysis	Computational chemistry; Food, cosmetic & forensic chemistry
Babasaheb Bhimrao Ambedkar University M.Sc	8	10	9	6	8	Main group elements & compounds; UV-Vis & IR spectroscopy	Computational chemistry
Banaras Hindu University M.Sc	9	12	9	7	7	-	Computational chemistry; Food, cosmetic & forensic chemistry
Central University of Haryana M.Sc, B.Sc	10	12	10	7	9	-	Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Central University of Himachal Pradesh M.Sc	10	12	11	7	7	-	Computational chemistry
Central University of Karnataka M.Sc	9	11	9	7	3	Chemical bonding (VSEPR, MO theory); Polymers & dyes; Industrial chemistry & chemical technology	Computational chemistry
Central University of Kerala M.Sc, B.Sc	10	12	8	6	7	Chemical bonding (VSEPR, MO theory)	Computational chemistry
Central University of South Bihar Ph.D / entrance, M.Sc, B.Sc	11	12	12	7	9	-	Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Central University of Tamil Nadu Ph.D / entrance, M.Sc	10	12	9	5	6	Chromatography & separation	Computational chemistry; Chemistry of energy & batteries
Indira Gandhi National Open University B.Sc	7	3	4	4	3	Solid state & inorganic materials; Reactive intermediates & mechanisms; Carbonyl, alcohols, phenols, amines; Name reactions & rearrangements; Pericyclic & photochemistry; Polymers & dyes; Thermodynamics; Quantum chemistry; Surface chemistry & catalysis; Molecular spectroscopy; Photochemistry & radiation; NMR, ESR & mass spectrometry	-

Indira Gandhi National Tribal University M.Sc, B.Sc	11	12	10	7	8	-	Solutions & colligative properties; Computational chemistry; Chemistry of energy & batteries
Jamia Millia Islamia B.Sc	7	8	8	4	2	d- and f-block / lanthanides; Pericyclic & photochemistry; Quantum chemistry; Molecular spectroscopy; NMR, ESR & mass spectrometry	Acids, bases & HSAB; Solutions & colligative properties
Jawaharlal Nehru University Ph.D / entrance, M.Sc, B.Sc	10	12	10	5	3	Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	Acids, bases & HSAB; Computational chemistry
Maulana Azad National Urdu University M.Sc	8	10	8	5	7	Solid state & inorganic materials	Food, cosmetic & forensic chemistry
Nagaland University B.Sc	9	10	10	6	6	Solid state & inorganic materials; Molecular spectroscopy	Acids, bases & HSAB
Sikkim University Ph.D / entrance	3	7	2	2	6	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Organometallic chemistry & catalysis; Main group elements & compounds; d- and f-block / lanthanides; Reactive intermediates & mechanisms; Aromaticity & aromatic chemistry; Name reactions & rearrangements; Chemical kinetics; Electrochemistry; Quantum chemistry; Molecular spectroscopy; Photochemistry & radiation; Volumetric & gravimetric analysis; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	Computational chemistry; Food, cosmetic & forensic chemistry
Tezpur University M.Sc, B.Sc	9	12	9	6	8	Volumetric & gravimetric analysis	Computational chemistry; Chemistry of energy & batteries
University of Allahabad M.Sc, B.Sc	3	10	8	6	2	Coordination chemistry; Organometallic chemistry & catalysis; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Chromatography & separation; Industrial chemistry & chemical technology	-
University of Delhi B.Sc	9	11	10	7	10	-	Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries

IITs (5)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
IIT Delhi M.Sc, B.Sc	6	9	6	4	4	Chemical bonding (VSEPR, MO theory); Aromaticity & aromatic chemistry; Name reactions & rearrangements; Chemical kinetics; Molecular spectroscopy; Volumetric & gravimetric analysis; Industrial chemistry & chemical technology	Computational chemistry

IIT Gandhinagar Ph.D / entrance, B.Sc	9	11	12	7	10	-	Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
IIT Madras B.Sc	10	12	12	6	6	Volumetric & gravimetric analysis; Industrial chemistry & chemical technology	Solutions & colligative properties; Computational chemistry
IIT Patna Ph.D / entrance, M.Sc, B.Sc	8	11	11	6	9	-	Computational chemistry; Food, cosmetic & forensic chemistry
IIT Roorkee B.Sc	12	12	11	7	9	-	Acids, bases & HSAB; Computational chemistry; Chemistry of energy & batteries

IISc, IISER & NISER (2)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
IISER Berhampur M.Sc	11	11	12	6	4	Volumetric & gravimetric analysis; Industrial chemistry & chemical technology	Solutions & colligative properties; Computational chemistry; Chemistry of energy & batteries
Indian Institute of Science Ph.D / entrance	7	6	9	2	8	Organometallic chemistry & catalysis; d- and f-block / lanthanides; Aromaticity & aromatic chemistry; Pericyclic & photochemistry; Volumetric & gravimetric analysis; Chromatography & separation; Atomic spectroscopy & electroanalytical	Computational chemistry; Chemistry of energy & batteries

NITs (6)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
NIT Durgapur M.Sc	10	11	9	7	7	Main group elements & compounds; Industrial chemistry & chemical technology	Computational chemistry
NIT Hamirpur M.Sc	9	11	10	5	6	Volumetric & gravimetric analysis	Computational chemistry
NIT Sikkim M.Sc, B.Sc	8	11	9	7	8	Coordination chemistry	Computational chemistry; Chemistry of energy & batteries
NIT Srinagar M.Sc	10	12	9	7	6	-	Chemistry of energy & batteries
NIT Tiruchirappalli M.Sc, B.Sc	10	12	11	7	9	-	Computational chemistry; Chemistry of energy & batteries
VNIT Nagpur Ph.D / entrance, M.Sc	7	10	9	7	7	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Aromaticity & aromatic chemistry	Computational chemistry

Other institutes (11)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
Birla Institute of Technology_Mesra B.Sc	11	12	12	7	3	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry

Diamond Harbour Women's University M.Sc	10	12	9	4	5	Volumetric & gravimetric analysis; Chromatography & separation; Industrial chemistry & chemical technology	-
J.C Bose University of Science & Technology M.Sc	6	7	8	2	3	Chemical bonding (VSEPR, MO theory); Solid state & inorganic materials; Pericyclic & photochemistry; Polymers & dyes; Photochemistry & radiation; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Industrial chemistry & chemical technology	Computational chemistry
Jamshedpur Women's University Ph.D / entrance, B.Sc	8	11	10	6	5	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry
Jawaharlal Nehru Centre for Advanced Scientific Research M.Sc	10	7	8	1	5	Aromaticity & aromatic chemistry; Pericyclic & photochemistry; Chemical kinetics; Volumetric & gravimetric analysis; Chromatography & separation; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	Chemistry of energy & batteries
Lingaya's Vidyapeeth M.Sc	5	10	8	6	3	Coordination chemistry; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Polymers & dyes; Molecular spectroscopy; Photochemistry & radiation; Industrial chemistry & chemical technology	-
Mahatma Gandhi University, Nalgonda M.Sc	7	12	8	5	3	Main group elements & compounds; Surface chemistry & catalysis; UV-Vis & IR spectroscopy; Industrial chemistry & chemical technology	Solutions & colligative properties
Mother Teresa Women's University M.Sc	10	11	8	3	7	Volumetric & gravimetric analysis; Atomic spectroscopy & electroanalytical	Computational chemistry
Rama Devi Women's University M.Sc	9	11	9	7	4	-	-
Shivaji University, Kolhapur M.Sc, B.Sc	3	5	5	6	3	Organometallic chemistry & catalysis; Main group elements & compounds; Solid state & inorganic materials; Reactive intermediates & mechanisms; Name reactions & rearrangements; Pericyclic & photochemistry; Quantum chemistry; Molecular spectroscopy; Photochemistry & radiation; NMR, ESR & mass spectrometry	Food, cosmetic & forensic chemistry
St. Joseph's University Bengaluru M.Sc	10	11	12	7	5	Industrial chemistry & chemical technology	Acids, bases & HSAB; Solutions & colligative properties

State universities (58)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
Alagappa University B.Sc	9	11	9	7	3	Quantum chemistry	-

Aliah University M.Sc	2	9	6	6	5	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Organometallic chemistry & catalysis; d- and f-block / lanthanides; Solid state & inorganic materials; Aromaticity & aromatic chemistry; Chemical kinetics; Electrochemistry; UV-Vis & IR spectroscopy	-
Andhra Kesari University M.Sc	9	11	10	7	9	Main group elements & compounds; Pericyclic & photochemistry; Quantum chemistry	Acids, bases & HSAB; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Annamalai University M.Sc	7	12	9	6	10	d- and f-block / lanthanides	Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Bankura University M.Sc, B.Sc	11	12	10	6	8	-	Computational chemistry
Bharathiar University M.Sc	9	12	11	7	8	Main group elements & compounds	Chemistry of energy & batteries
Biju Patnaik University of Technology M.Sc	6	11	8	6	7	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Main group elements & compounds	-
Chaudhary Bansi Lal University M.Sc, B.Sc	4	7	4	4	6	Chemical bonding (VSEPR, MO theory); Main group elements & compounds; Name reactions & rearrangements; Pericyclic & photochemistry; Surface chemistry & catalysis; Molecular spectroscopy; Photochemistry & radiation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry	Food, cosmetic & forensic chemistry
Chaudhary Charan Singh University M.Sc	8	11	9	7	5	-	-
Choudhary Charan Singh University M.Sc	8	10	9	7	5	-	-
Cooch Behar Panchanan Barma University M.Sc, B.Sc	8	9	10	5	3	Chemical bonding (VSEPR, MO theory); Polymers & dyes; UV-Vis & IR spectroscopy	Solutions & colligative properties
Delhi Technological University M.Sc	10	11	10	7	7	-	Food, cosmetic & forensic chemistry
Gangadhar Meher University M.Sc, B.Sc	9	9	10	6	5	Chromatography & separation	Computational chemistry; Chemistry of energy & batteries
Gauhati University Ph.D / entrance, M.Sc, B.Sc	5	10	9	5	6	Main group elements & compounds; Solid state & inorganic materials; Aromaticity & aromatic chemistry; Volumetric & gravimetric analysis; Industrial chemistry & chemical technology	Computational chemistry; Chemistry of energy & batteries

Goa University M.Sc, B.Sc	5	7	5	2	2	Organometallic chemistry & catalysis; d- and f-block / lanthanides; Solid state & inorganic materials; Pericyclic & photochemistry; Biomolecules (carbohydrates, amino acids, nucleic acids); Electrochemistry; Quantum chemistry; Surface chemistry & catalysis; Molecular spectroscopy; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical	Solutions & colligative properties
Guru Gobind Singh Indraprastha University M.Sc, B.Sc	5	6	5	2	4	d- and f-block / lanthanides; Solid state & inorganic materials; Aromaticity & aromatic chemistry; Name reactions & rearrangements; Pericyclic & photochemistry; Chemical kinetics; Quantum chemistry; Molecular spectroscopy; Photochemistry & radiation; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical	Solutions & colligative properties
Himachal Pradesh University B.Sc	9	11	10	6	6	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry
I.K. Gujral Punjab Technical University B.Sc	9	11	11	6	9	NMR, ESR & mass spectrometry	Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry
Kalahandi University Ph.D / entrance	11	12	12	7	10	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Kannur University B.Sc	11	11	12	7	10	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Karnataka University B.Sc	2	7	4	3	2	Coordination chemistry; Organometallic chemistry & catalysis; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Aromaticity & aromatic chemistry; Pericyclic & photochemistry; Electrochemistry; Surface chemistry & catalysis; Molecular spectroscopy; Photochemistry & radiation; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical	Food, cosmetic & forensic chemistry
Kazi Nazrul University M.Sc, B.Sc	10	12	10	7	9	-	Computational chemistry; Chemistry of energy & batteries

Khallikote University Ph.D / entrance	9	12	11	6	5	Solid state & inorganic materials	Acids, bases & HSAB; Solutions & colligative properties; Chemistry of energy & batteries
Krishna University B.Sc	11	10	8	2	4	Quantum chemistry; Molecular spectroscopy; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry	Acids, bases & HSAB; Solutions & colligative properties
Madurai Kamraj University M.Sc, B.Sc	11	10	11	7	7	-	Acids, bases & HSAB
Maharaja Bir Bikram University B.Sc	11	12	12	7	8	-	Solutions & colligative properties; Food, cosmetic & forensic chemistry
Maharaja Ranjit Singh Punjab Technical University M.Sc, B.Sc	10	11	10	6	9	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry
Maharishi Dayanand Saraswati University M.Sc, B.Sc	9	11	10	7	5	Industrial chemistry & chemical technology	Food, cosmetic & forensic chemistry
Mangalore University M.Sc	9	12	9	7	8	-	Acids, bases & HSAB; Chemistry of energy & batteries
Murshidabad University M.Sc, B.Sc	10	11	9	6	7	Atomic spectroscopy & electroanalytical	Computational chemistry
Nilamber-Pitamber University M.Sc	10	12	8	6	4	Atomic spectroscopy & electroanalytical	Acids, bases & HSAB
Odisha University of Technology and Research Ph.D / entrance, M.Sc, B.Sc	10	10	9	6	7	Aromaticity & aromatic chemistry; Industrial chemistry & chemical technology	Computational chemistry; Chemistry of energy & batteries
Patliputra University B.Sc	7	9	9	2	1	Coordination chemistry; Pericyclic & photochemistry; Molecular spectroscopy; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical	Solutions & colligative properties
Periyar University M.Sc, B.Sc	11	12	10	7	7	-	Acids, bases & HSAB; Chemistry of energy & batteries
Presidency University M.Sc	9	11	10	4	6	Volumetric & gravimetric analysis; Chromatography & separation	Computational chemistry; Chemistry of energy & batteries
Punyashlok Ahilyadevi Holkar Solapur University M.Sc, B.Sc	8	9	6	3	6	Chemical bonding (VSEPR, MO theory); Chemical kinetics; Surface chemistry & catalysis; Molecular spectroscopy; Volumetric & gravimetric analysis; UV-Vis & IR spectroscopy; Atomic spectroscopy & electroanalytical	-

Raja Mahendra Pratap Singh State University M.Sc	10	11	8	7	7	-	Acids, bases & HSAB; Food, cosmetic & forensic chemistry
Raja Shankar Shah University M.Sc	3	6	5	0	1	Coordination chemistry; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Name reactions & rearrangements; Pericyclic & photochemistry; Polymers & dyes; Chemical kinetics; Electrochemistry; Surface chemistry & catalysis; Photochemistry & radiation; Volumetric & gravimetric analysis; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	Acids, bases & HSAB
Ranchi University M.Sc, B.Sc	10	10	10	7	5	Pericyclic & photochemistry; Photochemistry & radiation	Acids, bases & HSAB; Solutions & colligative properties
Sardar Beant Singh State University M.Sc, B.Sc	3	5	4	7	4	Chemical bonding (VSEPR, MO theory); Main group elements & compounds; Solid state & inorganic materials; Aromaticity & aromatic chemistry; Carbonyl, alcohols, phenols, amines; Biomolecules (carbohydrates, amino acids, nucleic acids); Thermodynamics; Chemical kinetics; Quantum chemistry	-
Sardar Patel University Mandi M.Sc	11	12	11	7	8	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry
Savitribai Phule Pune University M.Sc, B.Sc	8	5	8	5	2	Solid state & inorganic materials; Aromaticity & aromatic chemistry; Carbonyl, alcohols, phenols, amines; Name reactions & rearrangements; Pericyclic & photochemistry; Electrochemistry; Volumetric & gravimetric analysis; Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	-
Sri Venkateswara University M.Sc, B.Sc	11	12	10	7	9	-	Acids, bases & HSAB; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Tamilnadu Open University Ph.D / entrance, M.Sc	8	11	10	5	5	Main group elements & compounds; Chromatography & separation	Acids, bases & HSAB
University of Burdwan B.Sc	1	7	5	1	0	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Organometallic chemistry & catalysis; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Pericyclic & photochemistry; Polymers & dyes; Quantum chemistry; Molecular spectroscopy; Photochemistry & radiation; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	Solutions & colligative properties
University of Calcutta B.Sc	12	12	12	7	4	-	Acids, bases & HSAB; Solutions & colligative properties

University of Kalyani M.Sc, B.Sc	10	11	9	6	7	Volumetric & gravimetric analysis; Industrial chemistry & chemical technology	Computational chemistry
University of Kerala M.Sc, B.Sc	10	12	10	7	10	-	Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
University of Kota M.Sc	6	9	9	5	5	Solid state & inorganic materials; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry	-
University of Mumbai B.Sc	2	5	5	1	0	Coordination chemistry; Organometallic chemistry & catalysis; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Name reactions & rearrangements; Pericyclic & photochemistry; Biomolecules (carbohydrates, amino acids, nucleic acids); Polymers & dyes; Quantum chemistry; Surface chemistry & catalysis; Molecular spectroscopy; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	-
University of Rajasthan B.Sc	5	6	4	0	1	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Organometallic chemistry & catalysis; Solid state & inorganic materials; Basic concepts & stereochemistry; Pericyclic & photochemistry; Biomolecules (carbohydrates, amino acids, nucleic acids); Chemical kinetics; Quantum chemistry; Surface chemistry & catalysis; Molecular spectroscopy; Photochemistry & radiation; Volumetric & gravimetric analysis; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical	Acids, bases & HSAB; Solutions & colligative properties
Utkal University M.Sc, B.Sc	9	11	9	7	3	-	-
Uttarakhand Open University M.Sc, B.Sc	8	9	9	5	2	Solid state & inorganic materials; Name reactions & rearrangements; Industrial chemistry & chemical technology	-
Vardhman Mahaveer Open University M.Sc	10	7	6	2	5	Basic concepts & stereochemistry; Pericyclic & photochemistry; Chemical kinetics; Surface chemistry & catalysis; Volumetric & gravimetric analysis; Chromatography & separation; Atomic spectroscopy & electroanalytical	Food, cosmetic & forensic chemistry
Vidyasagar University M.Sc, B.Sc	10	10	9	7	7	Aromaticity & aromatic chemistry	Computational chemistry; Chemistry of energy & batteries
Vijayanagara Sri Krishnadevaraya University M.Sc	11	12	10	7	9	-	Solutions & colligative properties; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Vikram University M.Sc, B.Sc	11	11	9	7	8	-	Acids, bases & HSAB; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries

West Bengal State University M.Sc, B.Sc	11	12	11	6	6	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry
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Deemed universities (18)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
Amrita Vishwa Vidyapeetham M.Sc, B.Sc	12	12	12	7	10	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Defence Institute of Advanced Technology Ph.D / entrance, M.Sc, B.Sc	6	12	9	7	6	Chemical bonding (VSEPR, MO theory); Solid state & inorganic materials	Solutions & colligative properties; Food, cosmetic & forensic chemistry
Dr. M.G.R. Educational and Research Institute M.Sc, B.Sc	8	10	8	7	5	Main group elements & compounds; Pericyclic & photochemistry; Quantum chemistry	-
Gandhigram Rural Institute B.Sc	9	11	11	6	5	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry
Gujarat Vidyapith B.Sc	7	10	6	7	9	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Name reactions & rearrangements; Quantum chemistry; Molecular spectroscopy	Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Gurukul Kangri Deemed to be University M.Sc	5	9	6	7	3	Chemical bonding (VSEPR, MO theory); Organometallic chemistry & catalysis; Main group elements & compounds; Solid state & inorganic materials; Aromaticity & aromatic chemistry; Electrochemistry; Quantum chemistry	-
Hindustan Institute of Technology and Science B.Sc	10	11	9	7	9	-	Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Kalasalingam Academy of Research and Education B.Sc	11	11	11	7	8	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry
Karpagam Academy of Higher Education M.Sc, B.Sc	9	11	10	7	7	d- and f-block / lanthanides	Chemistry of energy & batteries

Karunya Institute of Technology and Sciences B.Sc	12	12	12	7	10	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Nehru Gram Bharati B.Sc	7	10	9	7	8	Organometallic chemistry & catalysis; Pericyclic & photochemistry; Molecular spectroscopy	Solutions & colligative properties; Food, cosmetic & forensic chemistry
Ponnaiyah Ramajayam Institute of Science and Technology Ph.D / entrance, B.Sc	9	12	9	7	9	Chemical bonding (VSEPR, MO theory)	Solutions & colligative properties; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Sant Longowal Institute of Engineering and Technology M.Sc, B.Sc	11	12	12	7	8	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry
Siddhartha Academy of Higher Education Ph.D / entrance	2	7	6	5	4	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Organometallic chemistry & catalysis; Main group elements & compounds; d- and f-block / lanthanides; Aromaticity & aromatic chemistry; Biomolecules (carbohydrates, amino acids, nucleic acids); Thermodynamics; Quantum chemistry; Volumetric & gravimetric analysis; Chromatography & separation	Solutions & colligative properties
SRM Institute of Science and Technology M.Sc, B.Sc	12	11	10	7	7	Pericyclic & photochemistry	Acids, bases & HSAB; Computational chemistry; Chemistry of energy & batteries
Tata Institute of Fundamental Research Ph.D / entrance, M.Sc	4	2	4	1	3	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Reactive intermediates & mechanisms; Aromaticity & aromatic chemistry; Carbonyl, alcohols, phenols, amines; Name reactions & rearrangements; Pericyclic & photochemistry; Polymers & dyes; Chemical kinetics; Electrochemistry; Molecular spectroscopy; Volumetric & gravimetric analysis; Chromatography & separation; UV-Vis & IR spectroscopy; Atomic spectroscopy & electroanalytical; Industrial chemistry & chemical technology	Computational chemistry
Vellore Institute of Technology M.Sc	9	12	10	7	9	Chemical bonding (VSEPR, MO theory)	Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Yenepoya Deemed to be University M.Sc, B.Sc	6	5	3	3	6	Coordination chemistry; Organometallic chemistry & catalysis; Basic concepts & stereochemistry; Name reactions & rearrangements; Pericyclic & photochemistry; Biomolecules (carbohydrates, amino acids, nucleic acids); Chemical kinetics; Electrochemistry; Surface chemistry & catalysis; Molecular spectroscopy; Photochemistry & radiation; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical	-

Private universities (38)

Institute	Inorg.	Org.	Phys.	Anal.	Appl.	Missing common topics	Distinctive topics
Adamas University B.Sc	12	12	12	7	6	-	Acids, bases & HSAB; Solutions & colligative properties; Chemistry of energy & batteries
AKS University M.Sc	11	12	11	7	8	-	Solutions & colligative properties; Food, cosmetic & forensic chemistry
Assam Down Town University B.Sc	11	12	12	7	7	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry
Baddi University of Emerging Sciences and Technologies M.Sc, B.Sc	9	11	10	5	4	Chromatography & separation; Industrial chemistry & chemical technology	-
Chhatrapati Shivaji Maharaj University M.Sc, B.Sc	10	12	9	7	6	Molecular spectroscopy	-
DAV University M.Sc, B.Sc	10	12	12	7	5	-	Solutions & colligative properties
DIT University B.Sc	9	10	10	7	8	Pericyclic & photochemistry	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
GLA University M.Sc	9	11	10	7	7	Solid state & inorganic materials	Acids, bases & HSAB; Solutions & colligative properties
GNA University M.Sc, B.Sc	9	12	9	5	2	-	-
Graphic Era Hill University B.Sc	6	11	10	5	7	Chemical bonding (VSEPR, MO theory); NMR, ESR & mass spectrometry	Solutions & colligative properties; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
GSFC University B.Sc	10	11	10	6	7	-	Acids, bases & HSAB; Solutions & colligative properties
Guru Kashi University M.Sc	7	11	8	6	6	Main group elements & compounds; Molecular spectroscopy	Food, cosmetic & forensic chemistry
IFTM University M.Sc	4	11	5	7	4	Chemical bonding (VSEPR, MO theory); Main group elements & compounds; Quantum chemistry; Molecular spectroscopy	Food, cosmetic & forensic chemistry
Indrashil University B.Sc	9	10	9	4	3	Pericyclic & photochemistry; Chromatography & separation; UV-Vis & IR spectroscopy; Atomic spectroscopy & electroanalytical	Chemistry of energy & batteries

Invertis University M.Sc	8	5	9	5	2	Solid state & inorganic materials; Basic concepts & stereochemistry; Carbonyl, alcohols, phenols, amines; Name reactions & rearrangements; Biomolecules (carbohydrates, amino acids, nucleic acids); UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Industrial chemistry & chemical technology	-
JIS University M.Sc	10	11	9	7	9	-	Computational chemistry; Chemistry of energy & batteries
JSS University Noida M.Sc, B.Sc	11	12	11	7	5	-	Acids, bases & HSAB; Solutions & colligative properties
Manav Rachna University M.Sc	1	6	3	2	4	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Reactive intermediates & mechanisms; Name reactions & rearrangements; Polymers & dyes; Thermodynamics; Chemical kinetics; Electrochemistry; Quantum chemistry; Molecular spectroscopy; Volumetric & gravimetric analysis; Chromatography & separation; UV-Vis & IR spectroscopy; Atomic spectroscopy & electroanalytical	-
Manipal University Jaipur B.Sc	9	9	11	7	9	-	Acids, bases & HSAB; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
MATS University M.Sc, B.Sc	9	11	8	7	7	-	-
Maulana Azad University B.Sc	8	9	9	5	2	Organometallic chemistry & catalysis; Pericyclic & photochemistry; NMR, ESR & mass spectrometry	Acids, bases & HSAB
Medi-Caps University M.Sc	4	9	9	7	5	Coordination chemistry; Main group elements & compounds; d- and f-block / lanthanides	-
P P Savani University M.Sc, B.Sc	9	11	10	6	6	Solid state & inorganic materials; Molecular spectroscopy; NMR, ESR & mass spectrometry	Acids, bases & HSAB; Solutions & colligative properties
P.K. University M.Sc	9	10	8	6	4	-	Acids, bases & HSAB
Poornima University B.Sc	9	9	10	6	5	Polymers & dyes	Acids, bases & HSAB; Solutions & colligative properties
Rabindranath Tagore University B.Sc	12	12	12	7	8	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Raffles University M.Sc	9	11	10	7	6	-	Chemistry of energy & batteries
Rai University M.Sc	3	11	7	7	6	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Main group elements & compounds; Solid state & inorganic materials; Quantum chemistry	-

Ram Krishna Dharmarth Foundation University M.Sc, B.Sc	9	10	9	7	4	Industrial chemistry & chemical technology	Acids, bases & HSAB
REVA University M.Sc	12	12	11	7	10	-	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Royal Global University B.Sc	11	11	12	6	7	-	Acids, bases & HSAB; Solutions & colligative properties; Food, cosmetic & forensic chemistry; Chemistry of energy & batteries
Shri Guru Ram Rai University B.Sc	10	12	8	5	6	Molecular spectroscopy; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry	Acids, bases & HSAB; Computational chemistry
Shri Vaishnav Vidyapeeth Vishwavidyalaya B.Sc	0	6	2	1	4	Chemical bonding (VSEPR, MO theory); Coordination chemistry; Organometallic chemistry & catalysis; Main group elements & compounds; d- and f-block / lanthanides; Solid state & inorganic materials; Basic concepts & stereochemistry; Biomolecules (carbohydrates, amino acids, nucleic acids); Polymers & dyes; Thermodynamics; Chemical kinetics; Electrochemistry; Surface chemistry & catalysis; Molecular spectroscopy; Volumetric & gravimetric analysis; Chromatography & separation; UV-Vis & IR spectroscopy; NMR, ESR & mass spectrometry; Atomic spectroscopy & electroanalytical	Food, cosmetic & forensic chemistry
Sister Nivedita University M.Sc, B.Sc	11	12	12	4	3	Chromatography & separation	Solutions & colligative properties
Sri Guru Granth Sahib World University M.Sc, B.Sc	8	12	9	6	5	-	-
SRM University Haryana M.Sc	9	12	10	7	7	-	-
Teerthanker Mahaveer University B.Sc	10	10	10	6	9	Pericyclic & photochemistry	Acids, bases & HSAB; Solutions & colligative properties; Computational chemistry; Food, cosmetic & forensic chemistry
The Glocal University B.Sc	8	10	10	7	3	Solid state & inorganic materials; Pericyclic & photochemistry	Solutions & colligative properties