CBSE Class 12 Complete Guide 2026-27

English · Complete Guide

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CBSE Class 12 — Syllabus Book 2027 (Board Exam 2027)

Author: Raj Kamal **Publisher:** KAMALDNP **Price:** FREE (Rs. 0) **Meta description:** CBSE Class 12 syllabus book 2027: Science, Commerce and Arts — full chapter lists, unit marks, theory notes and practice questions. Free.

About This Book

This is a **syllabus book**, not a guide. It follows the **official CBSE Senior Secondary Curriculum 2026–27** (released 1 April 2026, cbseacademic.nic.in) in the order the curriculum prints it. Every chapter and unit in this book comes from the official CBSE subject PDFs or from the marks-bifurcation circular (No. CBSE/Coord/Marks distribution/163685/2026-2027, covering 121 Class 12 subjects). Nothing is copied from NCERT or any guidebook — the theory notes below are fresh explanations written from the syllabus topics. NCERT books are the prescribed textbooks; use them for full theory.

How the book is organised: three parts, one per stream — **Part 1 Science, Part 2 Commerce, Part 3 Arts/Humanities**. **English Core (301) and Hindi Core (302) are common to all streams, so they appear once each as common chapters** — they are not repeated in every part. Electives that belong to more than one stream (Mathematics, Applied Mathematics, Computer Science, Informatics Practices, Physical Education, Home Science, Entrepreneurship, Legal Studies) are written once, in the part where the syllabus places them first, and cross-referenced from the other parts. Check your school's offered combinations — streams are chosen by the school, and this book does not present one fixed combination.

Three words you must not mix up: Project (file + viva, external examiner present — Accountancy, Business Studies, Economics, History, Political Science, Sociology; Entrepreneurship has two projects), **Practical** (external examiner — Physics, Chemistry, Biology, Computer Science, Informatics Practices, Geography, Psychology, Physical Education, Home Science, Biotechnology), **Internal Assessment** (school-assessed only, no external examiner — Mathematics, Applied Mathematics, languages). Entrepreneurship is 70 theory + **30 PROJECT** — never call it internal assessment. Legal Studies is 80 + 20 project with **no external examiner** — the only project subject without one.

"Not in syllabus" is not the same as "school-assessed only". Some topics are **not in the syllabus at all** (never study them for the board paper): Solid State and p-Block Elements (Chemistry), Reproduction in Organisms (Biology), Transistors and logic gates (Physics), Communication Systems (Physics). Other topics **are in the syllabus but are assessed only by the school** — they will NOT appear in the board paper: Surface Chemistry, Polymers, Chemistry

in Everyday Life, General Principles and Processes of Isolation of Elements (Chemistry); Environmental Issues (Biology); Population Composition and Migration (Geography). This book keeps the two categories in separate lists (see the final section before Build-Time Checks).

Exam Facts at a Glance

- **Board:** Central Board of Secondary Education (CBSE). **Session:** 2026–27. **Mode:** offline, pen-and-paper. **Duration:** 3 hours per paper (skill subjects AI/Data Science: 2 hours). **Start time:** 10:30 AM for all papers. 15 minutes extra reading time.
- **Curriculum released:** 1 April 2026 (cbseacademic.nic.in). **Date sheet released:** Friday 6 November 2026. **Theory exams: Tuesday 16 February – Friday 9 April 2027.** Physics opens the exam season (Tuesday 16 February 2027). **Last day is Friday 9 April 2027 — Retail (801) + Web Application (803).**
- **Passing:** 33% in each subject; in subjects with practicals/projects/internal assessment, 33% separately in theory AND in the practical/project/IA part. Students must pass 5 subjects.
- **Question design (all subjects):** 50% competency-focused, 20% select-response (MCQ, 1 mark each, **no negative marking**), 30% constructed-response. **~33% internal choice. No overall choice.**
- **Sample question papers + marking schemes:** released by CBSE on cbseacademic.nic.in (SQPs released 21 September 2026). Use the official SQPs as the paper-design reference, not coaching-site blueprints.
- **Official curriculum index:** https://cbseacademic.nic.in/curriculum_2027.html — every Class 12 subject PDF hangs off this page (Senior Secondary section). CBSE main site: cbse.gov.in.

Date Sheet 2027 — Major Subjects

Date	Day	Subject (code)
16 Feb 2027	Tuesday	Physics (042)
18 Feb 2027	Thursday	Physical Education (048)
19 Feb 2027	Friday	Biotechnology (045), Entrepreneurship (066)
23 Feb 2027	Tuesday	Accountancy (055)
25 Feb 2027	Thursday	Geography (029)
27 Feb 2027	Saturday	Chemistry (043)
2 Mar 2027	Tuesday	Psychology (037)
5 Mar 2027	Friday	English Elective (001), English Core (301)
9 Mar 2027	Tuesday	Mathematics (041), Applied Mathematics (241)

Date	Day	Subject (code)
11 Mar 2027	Thursday	Home Science (064)
13 Mar 2027	Saturday	Hindi Elective (002), Hindi Core (302)
16 Mar 2027	Tuesday	Economics (030)
19 Mar 2027	Friday	Political Science (028)
20 Mar 2027	Saturday	Artificial Intelligence
25 Mar 2027	Thursday	Biology (044)
27 Mar 2027	Saturday	History (027)
30 Mar 2027	Tuesday	Sociology (039)
31 Mar 2027	Wednesday	Informatics Practices (065), Computer Science (083), Information Technology
1 Apr 2027	Thursday	Business Studies (054), Business Administration
8 Apr 2027	Thursday	Legal Studies (074)
9 Apr 2027	Friday	Retail (801), Web Application (803) — LAST DAY

COMMON CHAPTERS — English Core and Hindi Core

These two subjects are common to all three streams. They are written once here and cross-referenced from Parts 1, 2 and 3.

English Core (301) — 80 theory + 20 internal assessment

Paper design: Section A Reading Skills 22 (unseen passage 12 + case-based factual passage 10); Section B Creative Writing Skills 18 (notice 4; formal/informal invitation and reply 4; letter — job application with bio-data OR letter to the editor 5; article/report 5); Section C Literature (Flamingo + Vistas) 40 (extracts — poetry Flamingo 6, prose Vistas 4, prose Flamingo 6; short answers Flamingo 10 = 5×2, Vistas 4 = 2×2; long answers Flamingo 5, Vistas 5). **Total theory 80.** Internal assessment 20: listening 5 + speaking 5 + project 10. **There is NO grammar section in Class XII English Core.**

Prescribed books (official PDF): Flamingo (NCERT) — Prose: The Last Lesson; Lost Spring; Deep Water; The Rattrap; Indigo; Poets and Pancakes; The Interview; Going Places. Poetry: My Mother at Sixty-Six; Keeping Quiet; A Thing of Beauty; A Roadside Stand; Aunt Jennifer's Tigers. **Vistas (NCERT)** — The Third Level; The Tiger King; Journey to the End of the Earth; The Enemy; On the Face of It; Memories of Childhood (The Cutting of My Long Hair; We Too are Human Beings).

Theory notes — Reading Skills: an unseen passage tests comprehension, inference and vocabulary in context; the case-based factual passage tests data handling — read the data first, then the questions. **Creative Writing:** a notice answers who, what, when, where in 50 words; a formal invitation has a fixed format (name, occasion, date, time, venue, RSVP); a job-application letter pairs with a bio-data and must match the advertised post; an article states a clear position in the first paragraph and supports it with facts. **Literature:** Flamingo prose carries the long-answer weight — know each lesson's central idea, the narrator's voice and one telling detail; Vistas stories turn on a single idea (The Third Level — escapism; The Tiger King — irony of fate; The Enemy — humanity over enmity; On the Face of It — appearances versus reality; Memories of Childhood — dignity and identity). Poetry: learn the central image of each poem (My Mother at Sixty-Six — ageing and separation; Keeping Quiet — stillness; A Thing of Beauty — joy that endures; A Roadside Stand — rural neglect; Aunt Jennifer's Tigers — freedom versus oppression).

Practice questions: 1. What is the difference between a notice and a formal invitation? Give one example of each. 2. Write a letter to the editor (120–150 words) on the need for a public library in your locality. 3. In "The Last Lesson", why does Franz regret not learning French earlier? 4. How does "The Tiger King" use irony to make its point? 5. Explain the central image in "A Thing of Beauty".

Hindi Core (302) — 80 theory + 20 internal assessment

Paper design: Khand K — Apathit Bodh (Unseen Comprehension) 18 (unseen prose passage ~250 words 10 + unseen poem ~100 words 8); Khand Kha — Abhivyakti aur Madhyam 22 (lessons 3, 4, 5, 11, 12, 13 of Abhivyakti aur Madhyam; creative writing ~120 words 6; short answers 2×4 = 8 + 4×2 = 8); Khand G — Sahitya (Aroh Part 2 + Vitan Part 2) 40 (seen poem extract 5 MCQ; poetry questions 2×3 = 6 + 2×2 = 4; seen prose extract 5 MCQ; prose questions 2×3 = 6 + 2×2 = 4; Vitan long answers 2×5 = 10). **Total theory 80.** Internal assessment 20: listening + speaking 10 + project 10. **Section K has NO choice; choice exists in Khand Kha and G.** (Educart's 15/25/40 split is wrong — 18/22/40 is correct, confirmed by the official SQP 2027.)

Prescribed books (official PDF): Aroh Part 2, Vitan Part 2, Abhivyakti aur Madhyam (NCERT).

Aroh Part 2 — Kavya Khand (poetry, 9 lessons in book order): 1. Atmaparichay; Ek Geet — Harivansh Rai Bachchan; 2. Patang — Alok Dhanwa; 3. Kavita ke Bahane; Baat Seedhi Thi Par — Kunwar Narayan; 4. Camere mein Band Apahij — Raghuvir Sahay; 5. Sahaj Sweekara Hai — Gajanan Madhav Muktibodh **[DELETED — full lesson removed from syllabus]**; 6. Usha — Shamsher Bahadur Singh; 7. Kavitavali; Lakshman-Murti aur Ram ka Vilap — Tulsidas; 8. Rubaiyan — Firaq Gorakhpuri; 9. Chhota Mera Khet; Bagulon ke Pankh — Umashankar Joshi. Plus Firaq Gorakhpuri's **Ghazal [DELETED — full lesson removed]**.

Aroh Part 2 — Gadya Khand (prose, 6 lessons in book order): 1. **Bhaktin — Mahadevi Verma**; 2. Bazar Darshan — Jainendra Kumar; 3. Kaale Megha Pani De — Dharamvir Bharati; 4. Pehelwan ki Dholak — Phanishwar Nath Renu; 5. Charlie Chaplin Yani Hum Sab — Vishnu Khare **[DELETED]**; 6. Namak — Razia Sajjad Zaheer **[DELETED]**. (The Mahadevi Verma prose lesson is **Bhaktin** — there is no "Shraddha ke Swar" lesson in NCERT Aroh Part 2; do not look for it.)

Vitan Part 2 (3 lessons in book order): 1. Silver Wedding — Manohar Shyam Joshi; 2. Joojh — Anand Yadav; 3. Ateet Mein Dabe Paon — Om Thanvi. Plus Anne Frank's **Diary ke Panne [DELETED — full lesson removed]**.

Deletions settled (5 in total): Sahaj Sweekara Hai; Firaq Gorakhpuri's Ghazal; Charlie Chaplin Yani Hum Sab; Namak; Diary ke Panne. These five are removed from the syllabus — do not study them for the board paper.

Theory notes: Apathit Bodh rewards reading the questions before the passage and underlining the lines that answer them. In Abhivyakti aur Madhyam, the creative-writing answer must stay within ~120 words and keep one clear central idea. In Sahitya, the seen extracts carry 10 MCQ marks — know each lesson's opening lines and its central image or event. Bhaktin is a portrait of a devoted servant — remember the narrator's relationship with her and the dignity the lesson gives her. Bazar Darshan is a meditation on the market as a mirror of human desire. Pehelwan ki Dholak is about a wrestler's rise and fall. In Vitan, Silver Wedding turns on a couple's fifty years together; Joojh is about a boy's struggle to study; Ateet Mein Dabe Paon is about returning to one's roots.

Practice questions: 1. "Bhaktin" path mein lekhika ka sevika ke prati kya drishtikon hai? (Answer in Hindi.) 2. Aroh aur Vitan se kaun-se paanch paath syllabus se hata diye gaye hain? 3. Apathit gadyaansh ke prashnon ke uttar dete samay pehle kya karna chahiye? 4. "Bazar Darshan" mein bazaar ko kis ka pratibimb kaha gaya hai? 5. Vitan ke teenon paathon ke naam likhiye.

PART 1 — SCIENCE

Standard Science combinations: PCM (Physics, Chemistry, Mathematics, English Core) or PCB (Physics, Chemistry, Biology, English Core) + electives. Streams are chosen by the school — check your school's offered combinations. English Core and Hindi Core are in the Common

Chapters above.

Physics (042) — 70 theory + 30 practical

Units	Chapters	Marks
I Electrostatics + II Current Electricity	Ch 1 Electric Charges and Fields; Ch 2 Electrostatic Potential and Capacitance; Ch 3 Current Electricity	16
III Magnetic Effects of Current & Magnetism + IV EMI & AC	Ch 4 Moving Charges and Magnetism; Ch 5 Magnetism and Matter; Ch 6 Electromagnetic Induction; Ch 7 Alternating Current	17
V Electromagnetic Waves + VI Optics	Ch 8 Electromagnetic Waves; Ch 9 Ray Optics and Optical Instruments; Ch 10 Wave Optics	18
VII Dual Nature of Radiation & Matter + VIII Atoms & Nuclei	Ch 11 Dual Nature of Radiation and Matter; Ch 12 Atoms; Ch 13 Nuclei	12
IX Electronic Devices	Ch 14 Semiconductor Electronics: Materials, Devices and Simple Circuits	7
Total		**70**

Practical 30: two experiments (one from each section) 7+7; practical record 5; one activity 3; investigatory project 3; viva 5. **Paper design:** A 16×1 = 16; B 5×2 = 10; C 7×3 = 21; D 2 case-based ×4 = 8; E 3×5 = 15 (= 70). **NOT in syllabus:** Transistors, logic gates, Communication Systems.

Theory notes: Electrostatics — Coulomb's law, electric field and potential, Gauss's theorem, capacitors in series and parallel. Current Electricity — Ohm's law, Kirchhoff's laws, Wheatstone bridge, potentiometer. Magnetism — Biot–Savart law, Ampere's circuital law, force on a moving charge, magnetic moment, Earth's magnetism. EMI and AC — Faraday's law, Lenz's law, self and mutual inductance, AC circuits, resonance, transformer. Optics — reflection, refraction, lenses and mirrors, total internal reflection, optical instruments, interference, diffraction, polarisation. Dual nature — photoelectric effect, de Broglie wavelength, Bohr's model, spectra. Nuclei — mass defect, binding energy, radioactivity, nuclear fission and fusion. Semiconductors — p-n junction, diode, LED, photodiode, solar cell, Zener diode (junction diode circuits only — transistors are NOT in the syllabus).

Practice questions: 1. State Coulomb's law and define one coulomb. 2. Derive the equivalent capacitance of two capacitors in series. 3. What is resonance in an LCR circuit? Write the condition for it. 4. Explain the photoelectric effect and Einstein's equation. 5. A ray of light passes from air into glass. What happens to its speed, wavelength and frequency? 6. Define binding energy per nucleon and explain why iron-56 is the most stable nucleus. 7. What is a Zener diode used for?

Chemistry (043) — 70 theory + 30 practical

Unit	Topics	Marks
1 Solutions	Types of solutions; concentration; solubility; vapour pressure; ideal and non-ideal solutions; colligative properties and molar mass; abnormal molar masses	7
2 Electrochemistry	Electrochemical cells; galvanic cells; Nernst equation; conductance; electrolytic cells and electrolysis; batteries; fuel cells; corrosion	9
3 Chemical Kinetics	Rate of reaction; factors influencing rate; integrated rate equations; temperature dependence; collision theory	7
4 d- and f-Block Elements	Position in periodic table; electronic configuration; general properties of transition elements; important compounds; lanthanoids; actinoids; applications	7
5 Coordination Compounds	Werner's theory; important terms; nomenclature; isomerism; bonding; metal carbonyls; importance and applications	7
6 Haloalkanes and Haloarenes	Classification; nomenclature; nature of C–X bond; preparation; physical properties; chemical reactions; polyhalogen compounds	6
7 Alcohols, Phenols and Ethers	Classification; nomenclature; structures of functional groups; alcohols and phenols; commercially important alcohols; ethers	6
8 Aldehydes, Ketones and Carboxylic Acids	Nomenclature and structure of carbonyl group; preparation; physical properties and reactions; uses; carboxyl group — preparation, properties, reactions, uses	8
9 Amines	Structure; classification; nomenclature; preparation; physical properties; chemical reactions; diazonium salts — preparation, properties, reactions, importance in synthesis	6
10 Biomolecules	Carbohydrates; proteins; enzymes; vitamins; nucleic acids; hormones	7
Total		**70**

Practical 30: Volumetric Analysis 8; Salt Analysis 8; Content Based Experiment 6; Project Work 4; Class record and viva 4. **Question paper design:** Remembering & Understanding 28 (40%); Applying 21 (30%); Analysing, Evaluating and Creating 21 (30%). 33% internal choice. **No chapter-wise weightage beyond the unit table.**

Formative-only topics (in the syllabus, assessed ONLY by the school, NOT in the board paper): Surface Chemistry; General Principles and Processes of Isolation of Elements; Polymers; Chemistry in Everyday Life. **NOT in syllabus:** Solid State; p-Block Elements.

Theory notes: Solutions — Raoult's law, relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, van't Hoff factor for abnormal molar masses. Electrochemistry — standard electrode potential, Nernst equation $E = E° - (RT/nF)\ \ln Q$, conductance and molar conductivity, Faraday's laws of electrolysis, dry cell and lead storage battery, fuel cells, corrosion and its prevention. Kinetics — rate law, order and molecularity, integrated rate equations for zero and first order, half-life, Arrhenius equation, activation energy. d- and f-block — variable oxidation states, coloured ions, magnetic properties, catalytic behaviour, $KMnO_4$ and $K_2Cr_2O_7$ as oxidising agents. Coordination compounds — IUPAC nomenclature, isomerism (structural and stereo), crystal field theory basics, chelation. Haloalkanes — SN1 and SN2 mechanisms, Saytzeff rule, Wurtz reaction, Fittig reaction. Alcohols, phenols, ethers — acidity of phenols, Williamson synthesis, dehydration of alcohols. Aldehydes and ketones — nucleophilic addition, aldol condensation, Cannizzaro reaction, Tollens' and Fehling's tests. Amines — basicity order, diazotisation, coupling reactions. Biomolecules — glucose and fructose structures, peptide bond, enzyme action, DNA double helix, vitamins and their deficiency diseases.

Practice questions: 1. Define molality and molarity. Which one is temperature-independent and why? 2. Write the Nernst equation for a Daniell cell. 3. For a first-order reaction, derive $t½ = 0.693/k$. 4. Why do transition metals show variable oxidation states? 5. Give the IUPAC name of $[Co(NH_3)_5Cl]Cl_2$. 6. Distinguish between SN1 and SN2 reactions. 7. Why is phenol more acidic than ethanol? 8. What is the difference between DNA and RNA?

Biology (044) — 70 theory + 30 practical

Unit	Chapters	Marks
VI Reproduction	Ch 1 Sexual Reproduction in Flowering Plants; Ch 2 Human Reproduction; Ch 3 Reproductive Health	16
VII Genetics and Evolution	Ch 4 Principles of Inheritance and Variation; Ch 5 Molecular Basis of Inheritance; Ch 6 Evolution	20
VIII Biology and Human Welfare	Ch 7 Human Health and Diseases; Ch 8 Microbes in Human Welfare	12
IX Biotechnology and its Applications	Ch 9 Biotechnology – Principles and Processes; Ch 10 Biotechnology and its Applications	12
X Ecology and Environment	Ch 11 Organisms and Populations; Ch 12 Ecosystem; Ch 13 Biodiversity and its Conservation	10
Total		**70**

Practical 30: one major experiment 5; one minor experiment 4; slide preparation 5; spotting 7; practical record + viva 4; investigatory project + record + viva 5. **Question paper design:** Knowledge & Understanding 50%; Application of Knowledge/Concepts 30%; Analyse, Evaluate

and Create 20%. ~33% internal choice. (LawPrep and Oswaal give Biology as 14/18/14/10/14 — WRONG. The official PDF says **16/20/12/12/10**.)

Formative-only topic: Environmental Issues (air/water pollution, solid wastes, agro-chemicals, radioactive wastes, greenhouse effect and global warming, ozone depletion, deforestation). **NOT in syllabus:** Reproduction in Organisms; Strategies for Enhancement in Food Production.

Theory notes: Ch 1 — flower structure, male and female gametophytes, pollination (types, agencies, examples), outbreeding devices, pollen–pistil interaction, double fertilisation, post-fertilisation events (endosperm, embryo, seed, fruit), apomixis, parthenocarpy, polyembryony. Ch 2 — male and female reproductive systems, microscopic anatomy of testis and ovary, gametogenesis (spermatogenesis, oogenesis), menstrual cycle, fertilisation, embryo development up to blastocyst, implantation, pregnancy and placenta, parturition, lactation. Ch 3 — need for reproductive health, STDs, birth control (need, methods, contraception, MTP), amniocentesis, infertility and assisted reproductive technologies (IVF, ZIFT, GIFT). Ch 4 — Mendelian inheritance, deviations from Mendelism (incomplete dominance, co-dominance, multiple alleles, blood groups, pleiotropy), polygenic inheritance, chromosome theory, sex determination (humans, birds, honey bee), linkage and crossing over, sex-linked inheritance (haemophilia, colour blindness), Mendelian disorders (thalassemia), chromosomal disorders (Down's, Turner's, Klinefelter's syndromes). Ch 5 — search for genetic material, DNA as genetic material, structure of DNA and RNA, DNA packaging, DNA replication, Central Dogma, transcription, genetic code, translation, gene expression and regulation (lac operon), Human and rice genome projects, DNA fingerprinting. Ch 6 — origin of life, evidences for evolution, Darwin's contribution, modern synthetic theory, mechanism of evolution (variation, natural selection, gene flow, genetic drift), Hardy–Weinberg principle, adaptive radiation, human evolution. Ch 7 — pathogens causing malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm; immunology and vaccines; cancer, HIV and AIDS; adolescence — drug and alcohol abuse. Ch 8 — microbes in food processing, industrial production, sewage treatment, energy generation, bio-control agents and bio-fertilisers, antibiotics. Ch 9 — Genetic Engineering (Recombinant DNA Technology). Ch 10 — biotechnology in health and agriculture (human insulin and vaccine production, stem cell technology, gene therapy; Bt crops; transgenic animals; biosafety issues, biopiracy and patents). Ch 11 — population interactions (mutualism, competition, predation, parasitism), population attributes (growth, birth/death rate, age distribution). Ch 12 — ecosystems (patterns, components, productivity and decomposition, energy flow, pyramids of number, biomass, energy). Ch 13 — biodiversity (concept, patterns, importance, loss, conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife sanctuaries, Ramsar sites).

Practice questions: 1. What is double fertilisation? Where does it occur? 2. Draw a labelled diagram of the human male reproductive system. 3. A man with blood group A marries a woman with blood group B. What blood groups are possible in their children? 4. Explain the lac

operon with a diagram. 5. What is Hardy–Weinberg equilibrium? State its principle. 6. Name two STDs and their causative organisms. 7. What are Bt crops? Give one example. 8. Define biodiversity hotspots and name two in India.

Mathematics (041) — 80 theory + 20 internal assessment

Unit	Chapters	Marks
I Relations and Functions	Relations and Functions (types of relations: reflexive, symmetric, transitive, equivalence; one-to-one and onto functions); Inverse Trigonometric Functions (definition, range, domain, principal value branch; graphs)	8
II Algebra	Matrices (concept, notation, order, equality, types, transpose, symmetric/skew-symmetric, operations, invertible matrices); Determinants (up to 3×3, minors, co-factors, area of triangle, adjoint and inverse; solving systems of linear equations using inverse of a matrix)	10
III Calculus	Continuity and Differentiability; Applications of Derivatives; Integrals; Application of Integrals; Differential Equations	35
IV Vectors and Three-Dimensional Geometry	Vectors; Three-Dimensional Geometry	14
V Linear Programming	Introduction; constraints, objective function, optimisation; graphical method	5
VI Probability	Conditional probability; multiplication theorem; independent events; total probability; Bayes' theorem	8
Total		**80**

Internal assessment 20: Periodic Tests (best 2 of 3) 10 + Mathematics Activities 10. **Question paper design:** Remembering + Understanding 44 (55%); Applying 20 (25%); Analysing/Evaluating/Creating 16 (20%). 33% internal choice. **Calculus alone is 35/80 (44%) — the biggest unit in the whole Class 12 syllabus; give it the most pages.** Paper structure: Section A is 18 MCQ + 2 assertion–reason (20 marks); Section E is case-based (12 marks).

Theory notes: Relations and Functions — check reflexivity, symmetry and transitivity with small examples; one-to-one and onto functions; principal value branches of inverse trigonometric functions ($\sin^{-1}$ $[-\pi/2, \pi/2]$, $\cos^{-1}$ $[0, \pi]$, $\tan^{-1}$ $(-\pi/2, \pi/2)$). Matrices — properties of transpose, symmetric and skew-symmetric decomposition, inverse by adjoint, solving $AX = B$. Determinants — properties, area of a triangle, consistency of a system. Continuity and Differentiability — chain rule, derivatives of inverse trigonometric, implicit, exponential/logarithmic functions, logarithmic differentiation, parametric forms, second-order derivatives. Applications of Derivatives — rate of change, increasing/decreasing functions, maxima and minima (first and second derivative tests). Integrals — substitution, partial

fractions, by parts, definite integrals, Fundamental Theorem of Calculus, properties of definite integrals. Application of Integrals — area under simple curves (lines, circles/parabolas/ellipses in standard form). Differential Equations — order and degree, general/particular solutions, variable separable, homogeneous first order/first degree, linear dy/dx + py = q (integrating factor). Vectors — direction cosines/ratios, scalar and vector products, scalar triple product. Three-Dimensional Geometry — Cartesian and vector equation of a line, skew lines, shortest distance, angle between two lines. Linear Programming — graphical method for two variables, feasible/infeasible regions, optimal feasible solutions (up to three non-trivial constraints). Probability — conditional probability, multiplication theorem, independent events, total probability, Bayes' theorem.

Practice questions: 1. Show that the relation "is equal to" on the set of integers is an equivalence relation. 2. Find the inverse of the matrix [[2, 1], [3, 4]]. 3. Differentiate y = x^x with respect to x. 4. Find the maximum value of f(x) = $x^3 - 3x^2 + 3$ on [0, 3]. 5. Evaluate $\int_0^{\pi/2} \sin^2 x\, dx$. 6. Solve dy/dx + y = e^(−x). 7. Find the shortest distance between two skew lines (give the formula and one worked example). 8. A bag contains 4 red and 6 black balls. Two are drawn without replacement. Find P(both red). 9. State and prove Bayes' theorem.

Applied Mathematics (241) — 80 theory + 20 internal assessment

Unit	Topics	Marks
I Numbers, Quantification and Numerical Applications	Modulo Arithmetic; Congruence Modulo; Alligation and Mixture; Numerical Problems (Boats and Streams, Pipes and Cisterns, Races and Games); Numerical Inequalities	11
II Algebra	Matrices and types; equality, transpose, symmetric and skew-symmetric matrices; algebra of matrices; determinants; inverse of a matrix; solving simultaneous equations (Cramer's Rule, Inverse method)	10
III Calculus	Derivatives up to 2nd order; application of derivatives; marginal cost and marginal revenue; increasing and decreasing functions; maxima and minima; integration; indefinite and definite integrals; application (consumer/producer surplus); differential equations (order and degree, formation, variable separable method)	15
IV Probability Distributions	Probability distribution; mathematical expectation; variance; binomial distribution; Poisson distribution; normal distribution	10
V Inferential Statistics	Population and sample; parameter and statistics; t-test (one sample)	5
VI Time-based Data	Time series; components of time series; analysis for univariate data; secular trend; methods of measuring trend (moving average, least squares)	6

Unit	Topics	Marks
VII Financial Mathematics	Perpetuity; sinking funds; valuation of bonds; EMI; CAGR; linear method of depreciation	15
VIII Linear Programming	Introduction; formulation; types; graphical method; feasible and infeasible regions; optimal solution	8
Total		**80**

Theory notes: Modulo arithmetic — congruence classes and their use in checking divisibility; alligation for mixtures. Calculus in commerce — marginal cost is the derivative of total cost; marginal revenue is the derivative of total revenue; maxima/minima for profit optimisation; consumer surplus as the area between the demand curve and the price line. Probability distributions — binomial (n, p), Poisson (mean λ), normal (mean μ, standard deviation σ) and when each applies. Inferential statistics — sample versus population, the one-sample t-test for a small sample. Time series — trend, seasonal, cyclical and irregular components; moving average and least-squares trend. Financial mathematics — EMI formula, compound annual growth rate (CAGR), sinking fund, bond valuation, straight-line depreciation. Linear programming — formulate the objective function and constraints, then solve graphically.

Practice questions: 1. Find the remainder when 7^{100} is divided by 5 (use modulo arithmetic). 2. The total cost function is $C(x) = 100 + 5x + 0.01x^2$. Find the marginal cost at $x = 100$. 3. In a binomial distribution with $n = 5$ and $p = 0.4$, find $P(X = 2)$. 4. What is the difference between a population and a sample? 5. Calculate the EMI for a loan of ₹1,00,000 at 12% per annum for 2 years (monthly instalments). 6. Formulate a linear programming problem: maximise profit from two products with given constraints.

Computer Science (083) — 70 + 30 practical

Unit	Topics	Marks
I Computational Thinking and Programming – 2	Functions; Exception Handling; Text/Binary/CSV Files; Stack	40
II Computer Networks	(Network types, topologies, devices, protocols — see NCERT)	10
III Database Management	(SQL, database concepts — see NCERT)	20
Total		**70**

Practical 30. Theory notes: Functions — arguments, return values, scope, recursion. Exception handling — try/except/finally, raising exceptions. Files — reading and writing text, binary and CSV files; the pickle module for binary files. Stack — push/pop operations, implementation using a list, applications (expression evaluation, reversing). Computer networks — LAN, MAN,

WAN; topologies (bus, star, tree); devices (modem, router, switch, hub); protocols (TCP/IP, HTTP, FTP). Database management — SQL commands (DDL, DML), SELECT with WHERE, ORDER BY, GROUP BY, aggregate functions, joins.

Practice questions: 1. Write a Python function to check whether a number is prime. 2. What is the difference between a text file and a binary file? 3. Explain the stack operations push and pop with an example. 4. What is the role of a router in a network? 5. Write an SQL query to list all students scoring above 80 in a table named MARKS.

Informatics Practices (065) — 70 + 30 practical

Unit	Topics	Marks
1 Data Handling using Pandas and Data Visualization	(Pandas Series/DataFrame, data handling, charts — see NCERT)	25
2 Database Query using SQL	(SQL queries, functions, joins — see NCERT)	25
3 Introduction to Computer Networks	(Network basics — see NCERT)	10
4 Societal Impacts	(Digital footprint, cyber ethics, e-waste — see NCERT)	10
Total		**70**

Practical 30. (Minor wording variant: one source calls Unit 1 "Data Handling using Pandas and NumPy" — the base-file wording "Data Handling using Pandas and Data Visualization" is used here; confirm from the official IP PDF at build time — see Build-Time Checks.)

Theory notes: Pandas — Series and DataFrame creation, indexing, selection, filtering, sorting, handling missing values; visualisation with Matplotlib (line, bar, histogram, pie). SQL — DDL (CREATE, ALTER, DROP), DML (INSERT, UPDATE, DELETE), SELECT with aggregate functions (SUM, AVG, COUNT, MAX, MIN), GROUP BY and HAVING, joins. Networks — types of networks, topologies, devices. Societal impacts — digital footprint, netiquette, cybercrime, e-waste management, open-source software and licensing.

Practice questions: 1. Create a Pandas DataFrame with three columns and display its first five rows. 2. What is the difference between GROUP BY and ORDER BY in SQL? 3. Write an SQL query to find the average salary of employees in each department. 4. List three ways to reduce your digital footprint. 5. What is e-waste? Name two ways to dispose of it responsibly.

Physical Education (048) — 70 theory + 30 practical

Practical 30: Physical Fitness Test (SAI Khelo India) 6; Proficiency in Games/Sports 7; Yogic Practices 7; Record File 5; Viva Voce 5. **Highest-weightage unit: Biomechanics (10).**

No unit table is printed in this book. The printed unit figures in the base research add to **67, not 70** (5+7+6+4+7+8+4+10+7+9 = 67) — 3 marks are unaccounted for, and with the b* (visually-impaired alternative) marks added they total 80. Neither 67 nor 80 is the 70-mark theory paper. **The PE unit table must be taken from the official PE PDF at build time** — see Build-Time Checks, item 1. The ten theory units (by name only, no marks printed here) are: Management of Sporting Events; Children and Women in Sports; Yoga as Preventive Measure for Lifestyle Disease; Physical Education and Sports for CWSN; Sports and Nutrition; Test and Measurement in Sports; Physiology and Injuries in Sport; Biomechanics and Sports; Psychology and Sports; Training in Sports.

Theory notes: Management of sporting events — fixtures (knock-out, league, combination), tournaments and their organisation. Children and women in sports — benefits, challenges and participation. Yoga — asanas and their role in preventing lifestyle diseases (obesity, diabetes, hypertension, back pain). Sports for CWSN — adapted physical education, Paralympics, Special Olympics. Sports and nutrition — balanced diet, macro and micro nutrients, hydration. Test and measurement — fitness tests (SAI Khelo India test), BMI, skinfold measurement. Physiology — effects of exercise on muscular, respiratory and circulatory systems; sports injuries and their management. Biomechanics — Newton's laws in sports, levers, equilibrium, centre of gravity. Psychology — motivation, anxiety, goal setting, personality in sports. Training — principles of training, warming up and cooling down, load and adaptation, periodisation.

Practice questions: 1. What is the difference between a knock-out and a league tournament? 2. Name three asanas that help in managing obesity. 3. What is the SAI Khelo India Fitness Test? 4. State Newton's third law and give one sporting example. 5. What is periodisation in sports training?

Biotechnology (045) — 70 theory + 30 practical

Unit	Chapters	Marks
V Protein and Gene Manipulation	Ch 1 Recombinant DNA Technology; Ch 2 Protein Structure and Engineering; Ch 3 Genomics, Proteomics and Bioinformatics	40
VI Cell Culture and Genetic Manipulation	Ch 1 Microbial Cell Culture and its Applications; Ch 2 Plant Cell Culture and Applications; Ch 3 Animal Cell Culture and Applications	30
Total		**70**

Competencies: Knowledge 50%, Application 30%, Analyse/Evaluate/Create 20%; ~33% internal choice. **Practical 30.**

Theory notes: Recombinant DNA technology — restriction enzymes, vectors (plasmid, phage), cloning, PCR, DNA sequencing. Protein structure and engineering — levels of protein structure, site-directed mutagenesis. Genomics and proteomics — genome projects, bioinformatics tools and databases. Microbial cell culture — fermentation, bioreactors, production of enzymes and

antibiotics. Plant cell culture — tissue culture, micropropagation, somatic hybridisation, transgenic plants. Animal cell culture — cell lines, hybridoma technology, monoclonal antibodies.

Practice questions: 1. What is a restriction enzyme? Give one example. 2. Explain the steps of PCR. 3. What is a plasmid vector? 4. What is hybridoma technology used for? 5. Give two applications of plant tissue culture.

Home Science (064) — 70 theory + 30 practical

Unit	Chapters	Marks
1 Work, Livelihood and Career	Work, Livelihood and Career	5
2 Nutrition, Food Science and Technology	Clinical Nutrition and Dietetics; Public Nutrition and Health; Food Processing and Technology; Food Quality and Food Safety	23
3 Human Development and Family Studies	Early Childhood Care and Education; Management of Support Services; Institutions and Programmes for Children, Youth and Elderly	10
4 Fabric and Apparel	Design for Fabric and Apparel; Fashion Design and Merchandising; Care and Maintenance of Fabrics in Institutions	17
5 Resource Management	Hospitality Management; Consumer Education and Protection	10
6 Communication and Extension	Development Communication and Journalism	5
Total		**70**

Question paper design: Knowledge 28 (40%), Application 21 (30%), HOTS 21 (30%) = 70; internal choice 30%.

Theory notes: Work and livelihood — career choices in home science, entrepreneurship. Nutrition — therapeutic diets, public nutrition programmes (ICDS, mid-day meal), food processing and preservation, food safety standards (FSSAI, AGMARK, ISI). Human development — early childhood care, institutions for children, youth and elderly. Fabric and apparel — fibre properties, fabric design, fashion merchandising, care of fabrics. Resource management — hospitality, consumer rights and protection (Consumer Protection Act). Communication — development communication, journalism, extension education.

Practice questions: 1. What is the role of FSSAI in food safety? 2. Name two public nutrition programmes in India. 3. What is the difference between a therapeutic diet and a normal diet? 4. List three consumer rights. 5. What is early childhood care and education?

PART 2 — COMMERCE

Standard Commerce combination: Accountancy, Business Studies, Economics, English Core + Mathematics/Applied Mathematics/Hindi Core/Informatics Practices/Entrepreneurship/Physical Education as electives. English Core and Hindi Core are in the Common Chapters above; Mathematics and Applied Mathematics are in Part 1; Informatics Practices and Physical Education are in Part 1; Entrepreneurship is written below.

Accountancy (055) — 80 theory + 20 project

Part	Topics	Marks
A — Accounting for Partnership Firms (Unit 1)	Partnership deed; fixed vs fluctuating capital; Profit & Loss Appropriation Account; goodwill valuation; admission; retirement; death; reconstitution; dissolution of firms	36
A — Accounting for Companies (Unit 2)	Share capital (issue, forfeiture, reissue, disclosure); debentures (issue, redemption, interest, collateral security)	24
B — Financial Statement Analysis (Unit 3)	Meaning, objectives, tools (comparative, common-size, ratio analysis); accounting ratios (liquidity, solvency, activity, profitability)	12
B — Cash Flow Statement (Unit 4)	Preparation of Cash Flow Statement as per AS-3 (Indirect Method)	8
B — OR Computerised Accounting (Unit 4 alt.)	Features, structure, software packages, spreadsheet applications, using CAS for reports, ratio analysis, security features	20
Total theory		**80**

Project (Part C) 20: project file 12 + viva voce 8. (Computerised Accounting option: practical file 12 + viva 8.) **Paper:** 34 questions — Part A Q1–26, Part B Q27–34. 1-mark: Q1–16, 27–30; 3-mark: Q17–20, 31–32; 4-mark: Q21, 22, 33; 6-mark: Q23–26, 34.

Theory notes: Partnership — the deed decides profit sharing; fixed capital keeps a separate current account, fluctuating capital changes the capital account itself; goodwill is valued by average profit, super profit or capitalisation method; on admission the new partner pays for goodwill and capital; on retirement/death the share is settled through the revaluation and capital accounts; dissolution closes all accounts through the realisation account. Companies — shares are issued at par, premium or discount; forfeiture cancels shares for non-payment of calls and reissue may follow; debentures are long-term borrowings, redeemed out of profits or by conversion. Financial statements — comparative statements show change over years, common-size statements show each item as a percentage of a base; ratios: current ratio and quick ratio (liquidity), debt-equity ratio (solvency), inventory turnover (activity), net profit ratio

(profitability). Cash flow — AS-3 indirect method starts from net profit before tax and adjusts for non-cash items and working-capital changes, then separates operating, investing and financing activities.

Practice questions: 1. What is the difference between fixed and fluctuating capital accounts? 2. A firm earns average profits of ₹60,000. Normal rate of return is 10% and capital employed is ₹4,00,000. Calculate goodwill by the super profit method (3 years' purchase). 3. State two features of a partnership deed. 4. What is forfeiture of shares? 5. Calculate the current ratio from: current assets ₹5,00,000, current liabilities ₹2,50,000. 6. What are the three activities shown in a Cash Flow Statement?

Business Studies (054) — 80 theory + 20 project

Part	Chapters (NCERT book order)	Marks
A — Principles & Functions of Management	Ch 1 Nature and Significance of Management; Ch 2 Principles of Management; Ch 3 Business Environment (16); Ch 4 Planning; Ch 5 Organising (14); Ch 6 Staffing; Ch 7 Directing; Ch 8 Controlling (20)	50
B — Business Finance & Marketing	Ch 9 Financial Management; Ch 10 Financial Markets (15); Ch 11 Marketing Management; Ch 12 Consumer Protection (15)	30
Total theory		**80**

Project: one project, 20 marks. 12 chapters total (8 in Book 1 Management, 4 in Book 2 Finance & Marketing). **Business Studies is 50+30, NOT 40+40** — the 40+40 split belongs to Economics; do not swap them.

Theory notes: Management — nature (art and science), levels (top, middle, lower), functions (planning, organising, staffing, directing, controlling), coordination as the essence of management. Principles of management — Fayol's 14 principles and Taylor's scientific management. Business environment — dimensions (economic, social, legal, political, technological), SWOT analysis, demonetisation as a case. Planning — types of plans, planning process, limitations. Organising — formal and informal organisation, delegation, decentralisation, organisation structure. Staffing — recruitment, selection, training and development. Directing — motivation (Maslow's hierarchy), leadership styles, communication barriers. Controlling — steps, techniques, relationship with planning. Financial management — decisions (investment, financing, dividend), capital structure, fixed and working capital. Financial markets — money market versus capital market, primary and secondary markets, SEBI functions, stock exchange. Marketing management — marketing mix (4 Ps), product, price, place, promotion, branding, labelling, packaging. Consumer protection — Consumer Protection Act 2019, consumer rights, redressal agencies.

Practice questions: 1. State any four of Fayol's principles of management. 2. What is the difference between planning and controlling? 3. Explain Maslow's hierarchy of needs. 4. What is the primary market? How is it different from the secondary market? 5. List four consumer

rights under the Consumer Protection Act 2019. 6. What are the 4 Ps of marketing?

Economics (030) — 80 theory + 20 project

Part	Units	Marks
A — Introductory Macroeconomics	U1 National Income and Related Aggregates — concepts, methods, GDP, NDP, GNP, welfare 10; U2 Money and Banking — functions of money, supply, credit creation, RBI functions 6; U3 Determination of Income and Employment — AD, AS, multiplier, equilibrium, unemployment 12; U4 Government Budget and the Economy — receipts, expenditure, deficits 6; U5 Balance of Payments — meaning, components, exchange rate, types 6	40
B — Indian Economic Development	U6 Development Experience (1947–90) and Economic Reforms since 1991 12; U7 Current Challenges facing the Indian Economy — human capital, rural development, employment, sustainable development 20; U8 Development Experience of India — A Comparison with Neighbours (China & Pakistan) 8	40
Total theory		**80**

Project: one project on an economic issue, with viva-voce, 20 marks. **Paper:** 20 MCQ ×1 = 20; 4 SA ×3 = 12; 6 SA ×4 = 24; 4 LA ×6 = 24 (34 questions, 80). **Economics is 40+40** — do not swap it with Business Studies (50+30).

Theory notes: National income — GDP, NDP, GNP, NNP at market price and factor cost; methods of measuring national income (value added, income, expenditure); real versus nominal GDP; GDP and welfare. Money and banking — functions of money, money supply, credit creation by commercial banks, RBI functions (banker to the government, lender of last resort, CRR and SLR, repo rate). Income and employment — aggregate demand and supply, consumption function, multiplier, equilibrium level of income, unemployment types. Government budget — revenue and capital receipts, revenue and capital expenditure, fiscal deficit, revenue deficit, primary deficit. Balance of payments — current and capital account, trade deficit, exchange rate systems (fixed, flexible, managed float). Indian economy 1947–90 — agriculture, industry, foreign trade under the five-year plans; the 1991 reforms (LPG — liberalisation, privatisation, globalisation). Current challenges — human capital formation (education and health), rural development (agriculture marketing, diversification, organic farming), employment (formal versus informal sector), sustainable development. India and neighbours — comparing development indicators of India, China and Pakistan.

Practice questions: 1. Distinguish between GDP at market price and GDP at factor cost. 2. Explain the credit creation process of commercial banks with an example. 3. What is the investment multiplier? Calculate it when MPC = 0.75. 4. What is fiscal deficit? How is it different

from revenue deficit? 5. List three functions of the Reserve Bank of India. 6. What were the main features of the 1991 economic reforms? 7. Compare the development experience of India and China on any two indicators.

Entrepreneurship (066) — 70 theory + 30 PROJECT

Units	Topics	Marks
U1 Entrepreneurial Opportunity + U2 Entrepreneurial Planning	U1 Sensing Entrepreneurial Opportunities; U2 Forms of business organisation, Business Plan	30
U3 Enterprise Marketing + U4 Enterprise Growth Strategies	U3 Marketing and Sales Strategy, Branding/Logo/Tagline, Promotion Strategy; U4 Franchising, Mergers and Acquisition	20
U5 Business Arithmetic + U6 Resource Mobilization	U5 Unit of Sale/Unit Cost, Break-even Analysis, Working Capital, Inventory Control and EOQ, ROI and ROE; U6 Capital Market, Primary market methods of issue, Angel Investor, Venture Capital	20
Total theory		**70**

Project Work 30 = TWO projects (Business Plan 10 + Market Survey 10) + numerical assessment 5 + viva 5. Question paper design: Remembering 20 (28.5%), Understanding/Applying 30 (43%), Analysing/Evaluating/Creating 20 (28.5%) = 70. **Entrepreneurship is 70 theory + 30 PROJECT — not 30 internal assessment.** (EasyShiksha's "30 IA" label was wrong; the official PDF settles it.)

Theory notes: U1 — environment scanning, problem identification, idea fields, spotting trends, creativity and innovation, selecting the right opportunity. U2 — forms of business organisation (sole proprietorship, partnership, company), business plan (concept, format, components — organisational, operational, production, financial, marketing, HR plans). U3 — marketing and sales strategy, branding, logo and tagline, promotion strategy. U4 — franchising (concept, types, advantages/limitations), mergers and acquisition (concept, reasons, types). U5 — unit of sale and unit cost for multiple products, break-even analysis, computation of working capital, inventory control and EOQ, ROI and ROE. U6 — capital market, primary market methods of issue, angel investor, venture capital.

Practice questions: 1. What is environment scanning in entrepreneurship? 2. List the components of a business plan. 3. What is franchising? Give one advantage and one limitation. 4. Calculate the break-even point: fixed cost ₹50,000, selling price ₹100 per unit, variable cost ₹60 per unit. 5. What is the difference between an angel investor and a venture capitalist? 6. What is EOQ?

PART 3 — ARTS / HUMANITIES

Standard Arts combination: History, Political Science, Geography, English Core + Sociology, Psychology, Economics, Legal Studies, Home Science, Fine Arts, Hindi Core as electives. English Core and Hindi Core are in the Common Chapters above; Economics is in Part 2; Home Science is in Part 1.

History (027) — 80 theory + 20 project

Part	Themes (official order)	Marks
I — Themes in Indian History Part I	1 Bricks, Beads and Bones — The Harappa Civilisation; 2 Kings, Farmers and Towns — Early States and Economies (c. 600 BCE–600 CE); 3 Kinship, Caste and Class — Early Societies (c. 600 BCE–600 CE); 4 Thinkers, Beliefs and Buildings — Cultural Developments (c. 600 BCE–600 CE)	25
II — Themes in Indian History Part II	5 Through the Eyes of Travellers — Perceptions of Society (c. 10th–17th centuries); 6 Bhakti-Sufi Traditions — Changes in Religious Beliefs and Devotional Texts (c. 8th–18th centuries); 7 An Imperial Capital: Vijayanagara (c. 14th–16th centuries); 8 Peasants, Zamindars and the State — Agrarian Society and the Mughal Empire (c. 16th–17th centuries)	25
III — Themes in Indian History Part III	9 Colonialism and the Countryside — Exploring Official Archives; 10 Rebels and the Raj — 1857 Revolt and its Representations; 11 Mahatma Gandhi and the Nationalist Movement — Civil Disobedience and Beyond; 12 Framing the Constitution — The Beginning of a New Era	25
Map Work (related themes)		5
Total theory		**80**

Project 20. Question paper design: MCQ 7×1 = 7 per Part (21 total); SA 6×3 = 18; LA 3×8 = 24; Source-based 3×4 = 12; Map 5; total 80. **Competencies:** Knowledge 21 (26.25%); Understanding 18 (22.5%); Applying and Analysing 24 (30%); Formulating, Evaluating and Creating 12 (15%); Map skills 5 (6.25%).

Map work (official PDF): Part I — Mature Harappan sites (Harappa, Banawali, Kalibangan, Balakot, Rakhigarhi, Dholavira, Nageshwar, Lothal, Mohenjodaro, Chanhudaro, Kot Diji); Mahajanapada and cities (Vajji, Magadha, Kosala, Kuru, Panchala, Gandhara, Avanti, Rajgir, Ujjain, Taxila, Varanasi); distribution of Ashokan inscriptions (pillar inscriptions — Sanchi, Topra, Meerut Pillar, Kaushambi); kingdoms of Cholas, Cheras and Pandyas; important kingdoms and towns (Kushanas, Shakas, Satavahanas, Vakatakas, Guptas; Mathura, Kanauj, Puhar, Bharukachchha, Shravasti, Rajgir, Vaishali, Varanasi, Vidisha); major Buddhist sites (Nagarjunakonda, Sanchi, Amaravati, Lumbini, Bharhut, Bodh Gaya, Ajanta). Part II — Bidar, Golconda, Bijapur, Vijayanagar, Chandragiri, Kanchipuram, Mysore, Thanjavur, Kolar,

Tirunelveli; territories under Babur, Akbar and Aurangzeb (Delhi, Agra, Panipat, Amber, Ajmer, Lahore, Goa). Part III — territories/cities under British control in 1857 (Punjab, Sindh, Bombay, Madras, Berar, Bengal, Bihar, Orissa, Surat, Calcutta, Patna, Allahabad); main centres of the Revolt of 1857 (Delhi, Meerut, Jhansi, Lucknow, Kanpur, Azamgarh, Calcutta, Benaras, Gwalior, Jabalpur, Agra, Awadh); important centres of the National Movement (Champaran, Kheda, Ahmedabad, Benaras, Amritsar, Chauri Chaura, Lahore, Bardoli, Dandi, Bombay — Quit India Resolution — Karachi). (Maps: Survey of India / Government of India official maps.)

Theory notes: Part I — the Harappan civilisation (town planning, drainage, trade, seals and script); early states and economies (Mahajanapadas, Mauryan administration, Ashoka's dhamma); kinship, caste and class (varna, jati, family and marriage in early societies); thinkers, beliefs and buildings (Buddhism, Jainism, stupas and temples). Part II — travellers' accounts (Al-Biruni, Ibn Battuta, Bernier); Bhakti and Sufi traditions (saints, shrines, texts); Vijayanagara (capital city, nayaka system, trade); the Mughal agrarian system (zamindars, peasants, revenue). Part III — colonialism and the countryside (Permanent Settlement, ryotwari, indigo and opium); 1857 (causes, spread, representations); Gandhi and the nationalist movement (Non-Cooperation, Civil Disobedience, Quit India); framing the Constitution (Constituent Assembly debates, rights, federalism).

Practice questions: 1. What were the main features of Harappan town planning? 2. What was Ashoka's policy of dhamma? 3. How did Bhakti and Sufi traditions change religious life? 4. What were the causes of the Revolt of 1857? 5. What was the significance of the Dandi March? 6. On a map of India, mark any three mature Harappan sites.

Political Science (028) — 80 theory + 20 project

Part	Chapters	Marks
A — Contemporary World Politics	Ch 1 The End of Bipolarity 6; Ch 2 Contemporary Centres of Power 6; Ch 3 Contemporary South Asia 6; Ch 4 International Organizations 6; Ch 5 Security in the Contemporary World 6; Ch 6 Environment and Natural Resources 6; Ch 7 Globalisation 4	40
B — Politics in India since Independence	Ch 1 Challenges of Nation-Building 6; Ch 2 Era of One-Party Dominance 4; Ch 3 Politics of Planned Development 2; Ch 4 India's External Relations 6; Ch 5 Challenges to and Restoration of the Congress System 4; Ch 6 The Crisis of Democratic Order 4; Ch 7 Regional Aspirations 6; Ch 8 Recent Developments in Indian Politics 8	40
Total theory		**80**

Project 20, assessed jointly by internal + external examiners for Class XII. **Question paper design:** A MCQ 12; B VSA 12; C SA 20; D passage/cartoon/map 12; E LA 24 (= 80). **Competency-based questions 50% in Class XII (2026–27).** Competency split: Knowledge/Remembering 22 (27.5%); Understanding 24 (30%); Applying 22 (27.5%); Analysis/Evaluation 12 (15%).

Use only the official chapter titles above. The old titles "US Hegemony in World Politics" and "Alternative Centres of Power" do NOT exist in the 2026–27 official PDF (Chapter 2 is "Contemporary Centres of Power") — never print them.

Theory notes: Part A — the end of bipolarity (disintegration of the USSR, shock therapy, new world order); contemporary centres of power (EU, ASEAN, China, Japan, India as emerging powers); contemporary South Asia (India–Pakistan relations, SAARC); international organisations (UN, its agencies, reform of the UN); security (traditional and non-traditional threats, terrorism, human security); environment (global commons, resource geopolitics, climate change); globalisation (economic, cultural and political dimensions, resistance). Part B — nation-building (partition, integration of princely states, linguistic reorganisation); one-party dominance (Congress system, opposition parties); planned development (five-year plans, Green Revolution); India's external relations (non-alignment, wars, nuclear policy); the Congress system under challenge (1971, Emergency 1975–77); crisis of democratic order (Emergency, JP movement); regional aspirations (Punjab, Assam, Jammu and Kashmir, North-East); recent developments (coalition politics, Mandal, Mandir, economic reforms, new social movements).

Practice questions: 1. What is meant by the "end of bipolarity"? 2. What are the main organs of the United Nations? 3. Distinguish between traditional and non-traditional security threats. 4. What was the Emergency of 1975–77? What were its consequences? 5. Explain the significance of the Mandal Commission. 6. What is globalisation? Give two arguments for and two against it.

Geography (029) — 70 theory + 30 practical

Book	Units / Chapters	Marks
Book 1 — Fundamentals of Human Geography	Unit I Ch 1 Human Geography 3; Unit II Ch 2 World Population + Ch 3 Human Development (unit total 8); Unit III Ch 4 Primary Activities + Ch 5 Secondary Activities + Ch 6 Tertiary and Quaternary Activities + Ch 7 Transport, Communication and Trade + Ch 8 International Trade (unit total 19); Map Work — World Political Map 5	35
Book 2 — India: People and Economy	Unit I Ch 1 Population Distribution, Density, Growth and Composition 5; Unit II Ch 2 Human Settlements 3; Unit III Ch 3 Land Resources and Agriculture + Ch 4 Water Resources + Ch 5 Mineral and Energy Resources + Ch 6 Planning and Sustainable Development in Indian Context (unit total 10); Unit IV Ch 7 Transport and Communication + Ch 8 International Trade (unit total 7); Unit V Ch 9 Geographical Perspective on Selected Issues and Problems 5; Map Work — India Political Map 5	35
Total theory		**70**

Practical (Part II) 30: Ch 1 Data — Its Source and Compilation 18; Ch 2 Data Processing; Ch 3 Graphical Representation of Data; Ch 4 Spatial Information Technology 7; Practical Record Book and Viva 5. **Per-chapter marks within units are NOT published in the official PDF — only unit totals.** Do not invent per-chapter marks for Ch 2/3, Ch 4–8, Ch 3–6 or Ch 7/8.

Formative-only topics (school-assessed, NOT in the board paper): Population Composition (sex composition, age structure, age–sex pyramid, rural–urban composition, literacy, occupation structure); Human Settlements (classification, types/patterns, problems); Migration (types, causes, consequences).

Theory notes: Human geography — nature, scope, branches. World population — distribution, density, growth, demographic transition. Human development — HDI components, approaches. Primary activities — hunting, gathering, pastoralism, agriculture; mining. Secondary activities — manufacturing, industries, industrial location. Tertiary and quaternary activities — services, trade, transport, communication, quaternary sector. International trade — balance of trade, WTO, trade blocs. India — population distribution and density, growth and composition; human settlements (rural and urban); land resources and agriculture (cropping patterns, Green Revolution); water resources (irrigation, conservation); mineral and energy resources; planning and sustainable development; transport and communication; international trade; selected issues (poverty, unemployment, regional imbalance, environmental degradation). Data — sources and compilation, processing, graphical representation (bar, line, pie, choropleth), spatial information technology (GIS, remote sensing basics).

Practice questions: 1. What is the demographic transition model? Describe its four stages. 2. What is HDI? Name its three components. 3. Distinguish between primary and secondary activities with examples. 4. What are the main causes of population growth in India? 5. Explain the importance of the Green Revolution. 6. What is GIS? Give one use in geography.

Sociology (039) — 80 theory + 20 project

Part	Units	Marks
A — Indian Society	1 Introducing Indian Society (non-evaluative); 2 The Demographic Structure of the Indian Society 6; 3 Social Institutions — Continuity and Change 6; 4 The Market as a Social Institution 6; 5 Patterns of Social Inequality and Exclusion 6; 6 The Challenges of Cultural Diversity 8	32
B — Change and Development in Indian Society	7 Structural Change 6; 8 Cultural Change 6; 9 The Story of Indian Democracy 6*; 10 Change and Development in Rural Society 6; 11 Change and Development in Industrial Society 6; 12 Globalisation and Social Change 6; 13 Mass Media and Communications 6; 14 Social Movements 6	48
Total theory		**80**

Project 20. *Unit 9 = 6 marks is **implied, not printed**: the other seven Part B units are 6 each (42); Part B total is 48; 48 − 42 = 6. Print "6" only with this note — do not present the 6 as directly published. (One old source lists a spurious "Unit XV Recent Developments in Indian Politics" under Sociology — that is a Political Science topic, not Sociology. Do not print it.)

Theory notes: Indian society — demographic structure (age, sex ratio, literacy, rural–urban); social institutions (family, kinship, caste, tribe, religion — continuity and change); the market as a social institution (weekly markets, caste and trade); social inequality and exclusion (caste, class, gender, disability); cultural diversity (unity in diversity, regionalism, communalism). Change and development — structural change (colonialism, industrialisation, urbanisation); cultural change (modernisation, Sanskritisation, westernisation, secularisation); the story of Indian democracy (Constitution, Panchayati Raj); rural society (land reforms, Green Revolution, agrarian structure); industrial society (industrialisation, work, labour); globalisation and social change; mass media and communications; social movements (peasant, tribal, women's, environmental movements).

Practice questions: 1. What is the sex ratio? Why is it an important demographic indicator? 2. Explain the concept of Sanskritisation. 3. What is the difference between structural change and cultural change? 4. What are the main features of the Panchayati Raj system? 5. Give two examples of social movements in India and their aims.

Psychology (037) — 70 theory + 30 practical

Unit	Marks
I Variations in Psychological Attributes	13
II Self and Personality	13
III Meeting Life Challenges	9
IV Psychological Disorders	12
V Therapeutic Approaches	9
VI Attitude and Social Cognition	8
VII Social Influence and Group Processes	6
Total	**70**

Practical / project work 30. (Unit names are also the NCERT chapter titles.)

Theory notes: Variations in psychological attributes — intelligence theories (Spearman, Thurstone, Gardner, Sternberg), IQ, creativity, special abilities. Self and personality — self-concept, self-esteem, personality theories (Freud, trait theories, humanistic), assessment (self-report, projective tests). Meeting life challenges — stress, coping strategies, lifestyle. Psychological disorders — classification (DSM), anxiety, mood, schizophrenia, neurodevelopmental disorders. Therapeutic approaches — psychodynamic, behavioural,

cognitive, humanistic, biomedical therapies. Attitude and social cognition — attitude formation and change, prejudice, stereotypes. Social influence and group processes — conformity, obedience, group dynamics, leadership, intergroup conflict.

Practice questions: 1. What is IQ? How is it calculated? 2. Explain Gardner's theory of multiple intelligences. 3. What is stress? Name two coping strategies. 4. What is the difference between a psychodynamic and a cognitive therapy? 5. How are attitudes formed? Give one example of attitude change.

Legal Studies (074) — 80 theory + 20 project, NO external examiner

Unit	Topics	Marks
1 Judiciary	(Structure and functions — see NCERT)	8
2 Alternative Dispute Resolution in India (ADR)	(Arbitration, mediation, conciliation — see NCERT)	8
3 Topics in Law-I (Business Laws)	Ch 3A Law of Contract; 3B Law of Torts; 3C Law of Property; 3D Intellectual Property Law	20
4 Topics in Law-II (General Laws)	Ch 4A Law and Sustainable Development; 4B Forms of Legal Entities; 4C Criminal Laws in India	10
5 Concept of Human Rights	Ch 5A Human Rights in India; 5B Human Rights Violations — Complaint Mechanism / Quasi-Judicial Bodies	10
6 International Law	(Sources, treaties, institutions — see NCERT)	8
7 Legal Profession in India	(Advocates, bar councils, ethics — see NCERT)	8
8 Legal Services	(Legal aid, Lok Adalats — see NCERT)	8
Total theory		**80**

Project 20: "Understanding Case Laws" — 3 decided cases (one civil, one criminal, one constitutional). **Legal Studies is the only project subject with NO external examiner.**

Theory notes: Judiciary — hierarchy of courts, independence of judiciary, judicial review. ADR — arbitration, mediation, conciliation, negotiation; Lok Adalats. Law of contract — essentials of a valid contract, breach and remedies. Law of torts — negligence, defamation, nuisance. Law of property — ownership, transfer, intellectual property (patent, copyright, trademark). Criminal laws — IPC basics, offences and punishments. Human rights — fundamental rights, NHRC, complaint mechanisms. International law — sources, treaties, UN and its organs. Legal profession — advocates, Bar Council of India, professional ethics. Legal services — free legal aid, legal services authorities.

Practice questions: 1. What is the difference between arbitration and mediation? 2. What are the essentials of a valid contract? 3. What is a tort? Give two examples. 4. Name three human rights protected by the Indian Constitution. 5. What is the role of the National Human Rights

Commission?

Fine Arts — Painting (049) / Graphics (050) / Sculpture (051) / Applied Art – Commercial Art (052)

Theory 30 (History of Indian Art, common for all four courses) + Practical 70. Theory paper 2 hours; practical 6 hours (3+3 with a 1-hour break).

Theory notes: History of Indian Art — prehistoric rock paintings, Indus Valley art, Mauryan and Gupta art, Mughal and Rajput miniature painting, modern Indian art (Bengal School, progressive artists). Study one artwork per period: its subject, medium and historical context.

Practice questions: 1. Name two features of Mughal miniature painting. 2. What is the Bengal School of art? 3. How does a practical paper of 6 hours differ from a theory paper?

English Elective (001) — 80 + 20 internal assessment

Section	Content	Marks
A Reading Comprehension	(Unseen passages — see NCERT)	20
B Applied Grammar	(Grammar in use — see NCERT)	8
C Creative Writing	(Essays, articles, reports — see NCERT)	20
D Literature	Kaleidoscope 22 + Fiction/Drama 10 (R.K. Narayan / Tagore's Chandalika)	32
Total theory		**80**

Internal assessment 20: seminar/practical assessment.

Theory notes: Reading comprehension — inference, summary and critical reading. Applied grammar — tenses, modals, voice, narration, clauses. Creative writing — essays, articles, speeches, reports. Literature — Kaleidoscope (prose and poetry selections), fiction (R.K. Narayan) and drama (Tagore's Chandalika — the story of an untouchable girl's assertion of dignity).

Practice questions: 1. What is the theme of Tagore's Chandalika? 2. Write a short article (150 words) on the importance of reading. 3. Change into passive voice: "The teacher praised the student."

"NOT IN SYLLABUS" vs "SCHOOL-ASSESSED ONLY" — Keep Them Separate

NOT in the syllabus at all (do not study for the board paper): - Physics: Transistors, logic gates, Communication Systems. - Chemistry: Solid State; p-Block Elements. - Biology: Reproduction in Organisms; Strategies for Enhancement in Food Production.

IN the syllabus but assessed ONLY by the school (will NOT appear in the board paper): - Chemistry: Surface Chemistry; General Principles and Processes of Isolation of Elements; Polymers; Chemistry in Everyday Life. - Biology: Environmental Issues. - Geography: Population Composition (sex composition, age structure, age–sex pyramid, rural–urban composition, literacy, occupation structure); Human Settlements (classification, types/patterns, problems); Migration (types, causes, consequences). - Mathematics: the Class XII formative-only list in the official Maths PDF (read it at build time — see Build-Time Checks).

Do not merge the two lists. A topic in the second list is still part of your course — your school will assess it — but it cannot be asked in the board paper.

BUILD-TIME CHECKS (editor-facing — resolve before publish)

1. **Physical Education unit table — DO NOT PRINT until taken from the official PE PDF.** Printed base figures add to 67, not 70 (5+7+6+4+7+8+4+10+7+9 = 67); with b* (visually-impaired alternative) marks they total 80. Neither is the 70-mark theory paper. 3 marks are unaccounted for.
2. **Sociology Part B unit 9 ("Story of Indian Democracy") = 6 marks is implied, not printed** (48 − 42 = 6). If the official Sociology PDF gives a different figure, use it.
3. **Geography per-chapter marks within units are NOT published** (official PDF gives unit totals only). Do not invent them.
4. **Marks-bifurcation circular date unresolved:** 5 November 2026 (2 sources, with circular number) vs 6 November 2026 (AglaSem). Print the circular number (CBSE/Coord/Marks distribution/163685/2026-2027), not the date — or verify the date from cbse.gov.in.
5. **Practical exam window for 2027 — not verified.** Do NOT print a January 2027 practical date; check the official CBSE practical circular. **Compartment (supplementary) exam 2027 date — not announced** (2026 was 28 July 2026). Do not print a 2027 date.
6. **"19.8 lakh Class 12 candidates" — single source (CollegeSimplified).** Do not print as fact. **Four new skill electives "new in 2026–27"** (Land Transportation Associate, Electronics and Hardware, Physical Activity Trainer, Design Thinking and Innovation) — single source for the "new" claim. **Answer-book pages** (32 for 3-hour papers, 20 for 2-hour, 40 with graph pages for Maths) — single source (AglaSem). Verify from the circular.
7. **"5 main subjects compulsory + 1 optional"** — Collegedunia's phrasing. The official structure is 5 subjects including one language + optional 6th. Print the official version.

8. **Maths Class XII formative-only list** — the official Maths PDF has one; it was not captured in the research. Read it from the official PDF at build time. **IP Unit 1 wording variant:** LawPrep calls it "Data Handling using Pandas and NumPy"; the base file calls it "Data Handling using Pandas and Data Visualization" — confirm from the official IP PDF.
9. **Ambedkar / Dwivedi in Aroh Part 2 — unresolved.** Some boards' Aroh Part 2 lists (MPBSE, JAC, Orchids-CBSE) include Ambedkar's "Shram Vibhajan aur Jati Pratha" / "Meri Kalpana ka Adarsh Samaj" (and MPBSE/JAC also Hazari Prasad Dwivedi's "Shirish ke Phool"). The standard NCERT Aroh Part 2 contents used in this book list 6 prose lessons ending with Namak. **Check the physical NCERT Aroh Part 2 contents page at build time; do NOT add Ambedkar/Dwivedi to the CBSE book until confirmed.**
10. **Exact prescribed-book titles not captured from official PDFs:** Applied Mathematics (241), Legal Studies (074), Accountancy (055) part titles. Confirm from the official subject PDFs at build time.
11. **NCC, Engineering Graphics, Knowledge Tradition – Practices India** — in the official curriculum list; splits/unit marks not verified in this research. Take from the official PDFs at build time, never from a coaching site alone.
