

Karnataka 2nd PUC Syllabus 2025-26

Department of Pre-University Education, Karnataka

Academic Year 2025-26

Contents

1	Introduction	2
2	Mathematics Syllabus	2
3	Physics Syllabus	3
4	Chemistry Syllabus	3
5	Biology Syllabus	3
6	English Syllabus	4
7	Other Subjects	4
8	How to Download the Syllabus	4
9	Additional Notes	4

1 Introduction

The Karnataka 2nd PUC Syllabus for the academic year 2025-26, as prescribed by the Department of Pre-University Education (PUE), Karnataka, covers a wide range of subjects across Science, Commerce, Arts, and Language streams. This document provides a detailed overview of the syllabus for key subjects, including important topics and chapters. Students are advised to refer to the official website (<http://pue.karnataka.gov.in>) for the latest updates and complete syllabus PDFs. The syllabus is designed to prepare students for higher education and competitive examinations.

2 Mathematics Syllabus

The Mathematics syllabus includes 15 units, covering topics essential for engineering and other technical courses. Below is a summary of key units and topics:

- **Relations and Functions:** Types of relations (reflexive, symmetric, transitive, equivalence), one-to-one and onto functions.
- **Inverse Trigonometric Functions:** Definition, domain, range, principal value branch, graphs.
- **Matrices:** Notation, order, types, operations (addition, multiplication, scalar multiplication), transpose, symmetric and skew-symmetric matrices.
- **Determinants:** Determinant of matrices (up to 3×3), minors, cofactors, applications in finding the area of a triangle.
- **Continuity and Differentiability:** Continuity, differentiability, derivative of composite functions.
- **Applications of Derivatives:** Rate of change, increasing/decreasing functions, tangents, and normals.
- **Integrals:** Integration by substitution, partial fractions, definite integrals.
- **Applications of Integrals:** Area under curves.
- **Differential Equations:** Formation, general and particular solutions.
- **Vector Algebra:** Types of vectors, addition, dot and cross products.
- **Three Dimensional Geometry:** Direction cosines, direction ratios, lines, and planes.
- **Linear Programming:** Mathematical formulation, graphical method.
- **Probability:** Conditional probability, Bayes' theorem.
- **Permutations and Combinations:** Fundamental principles, permutations, combinations.
- **Binomial Theorem:** Expansion, general term.

3 Physics Syllabus

The Physics syllabus consists of 13 units, focusing on fundamental concepts and applications. Key units include:

- **Electric Charges and Fields:** Electric charge, Coulombs law, electric field, Gausss law, applications.
- **Electrostatic Potential and Capacitance:** Potential due to a point charge, dipole, system of charges, capacitance.
- **Current Electricity:** Ohms law, Kirchhoffs laws, electrical resistance, series and parallel circuits.
- **Moving Charges and Magnetism:** Magnetic force, Biot-Savart law, Amperes law.
- **Electromagnetic Induction:** Faradays laws, Lenzs law, self and mutual induction.
- **Alternating Current:** AC circuits, transformers.
- **Electromagnetic Waves:** Properties, electromagnetic spectrum.
- **Ray Optics and Optical Instruments:** Reflection, refraction, lenses, optical instruments.

4 Chemistry Syllabus

The Chemistry syllabus is divided into two parts, covering physical, organic, and inorganic chemistry:

- **Solid State:** Classification, crystal lattices, unit cells.
- **Solutions:** Types, concentration, Raoults law, colligative properties.
- **Electrochemistry:** Conductance, electrochemical cells, Nernst equation.
- **Chemical Kinetics:** Rate of reaction, factors affecting rate, order, and molecularity.
- **d and f Block Elements:** Properties, lanthanoids, actinoids.
- **Coordination Compounds:** Ligands, coordination number, IUPAC nomenclature.
- **Organic Chemistry:** Alkanes, alkenes, alkynes, aromatic compounds, functional groups.

5 Biology Syllabus

The Biology syllabus emphasizes both botany and zoology:

- **Reproduction:** Sexual and asexual reproduction, human reproduction, reproductive health.
- **Genetics and Evolution:** Mendelian inheritance, DNA, gene expression, evolution theories.

- **Biology and Human Welfare:** Health, diseases, immunity, biotechnology applications.
- **Ecology:** Ecosystems, biodiversity, environmental issues.

6 English Syllabus

The English syllabus includes 13 units, focusing on literature and language skills:

- **Romeo and Juliet:** Shakespeares play (selected excerpts).
- **Too Dear:** Short story analysis.
- **On Children:** Poem by Kahlil Gibran.
- **A Sunny Morning:** Play by Serafin and Joaquin Alvarez Quintero.
- **When You Are Old:** Poem by W.B. Yeats.
- **Japan and Brazil Through a Travelers Eye:** Prose by George Mikes.

7 Other Subjects

The Karnataka 2nd PUC syllabus includes additional subjects such as:

- **Business Studies:** Nature and significance of management, business environment, financial management.
- **Accountancy:** Accounting for partnerships, company accounts, financial statements.
- **Economics:** Microeconomics (demand, supply), macroeconomics (national income, money, and banking).
- **Languages:** Kannada, Hindi, Tamil, Telugu, Malayalam, Marathi, Urdu, Sanskrit, Arabic, French, Optional Kannada.
- **Other Electives:** History, Sociology, Political Science, Psychology, Computer Science, Electronics, Home Science, and more.

8 How to Download the Syllabus

To download the official Karnataka 2nd PUC Syllabus 2025-26 in PDF format:

1. Visit the official website: <http://pue.karnataka.gov.in>.
2. Navigate to the “Student’s Corner” section.
3. Locate the syllabus link under “Syllabus and Textbooks”.
4. Select the subject and download the PDF.

9 Additional Notes

- The syllabus for 2025-26 is expected to follow the structure of the previous year, with possible updates for specific subjects (e.g., PCMB, Economics, Business Studies, Accountancy).

- Students should check for any reduced syllabus or revised textbooks, as some subjects have adopted NCERT content for 2024-25.
- For the latest updates, refer to the official websites: <http://pue.karnataka.gov.in> or <http://kseab.karnataka.gov.in>.