

Bachelor of Science (B.Sc.) – MPC (Mathematics, Physics, Chemistry) — Common Syllabus

Duration: 3 years (6 semesters) | Evaluation: Theory exams, Practicals, Assignments, and Project Work

Course Structure

- Duration: 3 years (6 semesters).
- Each semester includes core theory papers, practicals, and electives.
- Credits: Typically 3–4 per paper.
- Evaluation: Written exams, internal assessments, lab work, and project reports.

Semester I — Suggested Papers

- Mathematics – I (Differential Calculus, Matrices, and Algebra)
- Physics – I (Mechanics and Properties of Matter)
- Chemistry – I (Inorganic and General Chemistry)
- Practical – Physics and Chemistry Lab – I
- Environmental Studies / Communication Skills

Semester II — Suggested Papers

- Mathematics – II (Integral Calculus and Differential Equations)
- Physics – II (Heat, Thermodynamics, and Waves)
- Chemistry – II (Organic Chemistry – I)
- Practical – Physics and Chemistry Lab – II
- Computer Fundamentals / Skill Enhancement Course

Semester III — Suggested Papers

- Mathematics – III (Vector Calculus and Numerical Methods)
- Physics – III (Electricity and Magnetism)
- Chemistry – III (Physical Chemistry – I)
- Practical – Physics and Chemistry Lab – III
- Skill Enhancement Course / Minor Project

Semester IV — Suggested Papers

- Mathematics – IV (Real Analysis and Probability)
- Physics – IV (Optics and Modern Physics)
- Chemistry – IV (Inorganic Chemistry – II)
- Practical – Physics and Chemistry Lab – IV
- Value Education / Communication Skills – II

Semester V — Suggested Papers

- Mathematics – V (Abstract Algebra and Linear Algebra)
- Physics – V (Quantum Mechanics and Spectroscopy)
- Chemistry – V (Organic Chemistry – II)
- Practical – Physics and Chemistry Lab – V
- Research Methodology / Elective Paper – I

Semester VI — Suggested Papers

- Mathematics – VI (Complex Analysis and Numerical Techniques)
- Physics – VI (Solid State Physics and Electronics)
- Chemistry – VI (Physical Chemistry – II)
- Practical – Comprehensive Physics and Chemistry Lab – VI
- Project / Viva Voce / Elective Paper – II

Electives (Indicative List)

- Renewable Energy and Environmental Physics
- Analytical and Industrial Chemistry
- Computational Mathematics
- Nanoscience and Materials Chemistry
- Astrophysics and Space Science
- Instrumentation and Measurement Techniques

Notes:

- This common syllabus is designed based on UGC model curriculum and leading Indian university structures for B.Sc. (MPC).
- Each paper generally carries 100 marks, with a 70:30 split between external and internal evaluation.
- Practical sessions are compulsory for Physics and Chemistry each semester.
- Final year includes a project or minor research work to enhance analytical and practical skills.

Prepared by: ChatGPT — Common B.Sc. MPC Syllabus Template

Date: October 7, 2025