MPC

One of the most popular and commonly pursued streams in senior secondary school is the Non-Medical stream. Also referred to as MPC subjects, this stream lets you dive into the non-medical side of the domain of Science. The MPC full form in intermediate studies is ***Maths, Physics, and Chemistry***, thus, it puts thrust on these three main areas. With a diverse curriculum, MPC subjects offer a wide range of career opportunities to explore. Architecture, Engineering, Defence Services, **Commercial pilot**, Statistics, Industrial Designing and Data Analytics are some of the few professions you can strive for. In this blog, you will get a detailed analysis of MPC subjects.

A Detailed Analysis of MPC Subjects

As we are aware of the MPC full form, here is a detailed and comprehensive analysis of the various MPC subjects:

Maths

Mathematics as a subject not only hones our problem solving and analytical skills but also enhances our reasoning ability. While Physics and Chemistry introduce us to the laws of the world, Math helps in establishing the relationship between them. Thus, it can become slightly difficult to understand the other two MPC Subjects if mathematical concepts are not clear.

List of Maths Topics

Let us now have a look at the topics which you will come across in Math:

- Mathematical Reasoning
- Differential Equations
- Probability and Statistics
- Coordinate Geometry
- Vectors and three-dimensional geometry
- Integral Calculus
- Sets and Functions
- Linear Programming
- Permutations and Combinations
- Algebra and Binomial Theorem

Physics

Physics is one of the oldest and most diverse fields of Science. It is a fundamental discipline that deals with the study of matter, energy, nature and their interdependence. An important part of MPC Subjects, physics works on the principle of reductionism and can broadly be categorized into 2; Modern and Classical Physics. While Classical Physics focuses on the macroscopic (thermodynamics,

acoustics, electromagnetism, mechanics etc.) aspects, Modern deals with the microscopic elements (atoms, nanotechnology, relativity, quantum physics etc.).

List of Physics Topics

Below is a list of topics that constitute a major portion of Physics:

- Kinematics: Rectilinear and Non-Rectilinear motion
- Physical-world, Units, and Measurements
- Newton's Laws of motion and their applications
- Work, Power and Energy
- Motion of Rigid Bodies and Particle Systems
- Kinetic Theory and Behavior of Gases
- Mechanical Properties of Solids and Liquids
- Thermal Properties and Dual Nature of Matter
- Electromagnetic Induction, Faraday's laws and Alternating Current
- Thermodynamics
- Atoms, their models and Nuclei
- Oscillations and Waves
- Electrostatics and Electronic Devices
- Gravitation
- Optics and Optical Instruments
- Electromagnetic Waves
- Magnetism

Chemistry

After Physics and Math, Chemistry forms an integral part of MPC Subjects. If Physics is the study of matter then Chemistry is the study of the structure, composition and properties of matter. The following are the five core branches of this subject:

- **Organic Chemistry:** The study of Carbon, Hydrogen and Carbon-Hydrogen compounds is called Organic Chemistry. Some common examples include alkanes, alcohols and DNA. These compounds are widely used in the pharmaceutical, plastic, paints, cosmetics, and coating industries.

- **Inorganic Chemistry**: In simple terms, it is the study of everything not organic. i.e : compounds without C-H bonds. Metals, salts and minerals form perfect examples.

- **Analytical Chemistry**: Ever wondered how the blood samples of a patient are analyzed? Or how milk adulterants are found? This is where analytical chemistry comes into the picture. It is the science of identifying and analyzing compounds both quantitatively and qualitatively. This is done either using instruments like spectrometers and calorimetry or via classical techniques like volumetric analysis and acid test.

- **Physical Chemistry**: The science of studying physical properties of elements and compounds like their boiling points, colour, temperature etc. is called Physical Chemistry.

- **Biochemistry**: It is that branch of chemistry which deals with the study of chemical processes that take place inside living organisms.

List of Chemistry Topics

Want to get an insight into the syllabus of Chemistry? Here is a compilation of the important topics :

- Structure of Atoms and Molecules
- Classification, Periodicity and properties of Elements
- Chemical Bondings and Molecular Structure
- Redox Reactions
- States of Matter
- Equilibrium and Chemical Kinetics
- Coordination Compounds, Biomolecules and Polymers
- Hydrocarbons, their Classification and Properties
- Chemical Thermodynamics
- s-, p-, d-, f-Block Elements and their Properties
- Organic and Environmental Chemistry
- Electro and Surface Chemistry
- Ethers, Alcohols, and Phenols
- Ketones, Carboxylic acids, and Aldehydes
- Solution- Their Types and Properties
- Nitrogen-containing Organic Compounds

Further Studies After MPC Subjects

There are various professional disciplines that students may choose after finishing the MPC course. Students have many professional possibilities affiliated with this course:

- B.E/**B.TECH** – **CSE**, IT, **ECE**, **EEE**, **CIVIL**, **MECHANICAL, CHEMICAL** etc
- **B.ARCH**
- **INTEGRATED M.Sc**
- **BCA**
- B.com
- DEFENCE (NAVY, ARMY, AIR FORCE)
- B.Sc DEGREE
- B.Des
- BA
- LLB(Bachelor of Law)
- Education/Teaching
- Travel and Tourism Courses
- Environmental Science
- Fashion Technology

- Hotel Management
- Designing Courses
- Media/Journalism Courses
- CA Program
- ICWA Program
- CS Program
- Higher Studies (Masters)

Engineering Programs After MPC Subjects

- M.Tech
- MBA
- MS
- Fashion
- Foreign Education
- P.hd

Non-Engineering Programs After MPC Subjects

- M.Sc
- MBA
- MCA
- B.Ed
- Financial Markets
- Media and Mass Communication
- Animation
- Bachelor of Management Studies (BMS)
- Agriculture
- Commercial pilot
- Video game developer
- Production design
- Architecture