

Department of Chemistry
Discipline Specific Minor Course
(Semester-II)

Year	Semester	Course Type	Course Code	Course Title	Theory/ Practical	Credits	No. of Lectures/ Practical to be conducted	Page No.
1 st	II	DSC (Minor)	CH-MN-126T	Basics of Chemistry	Theory	2	30L	2-3

DISCIPLINE SPECIFIC MINOR COURSE (CH-MN-126T): Basics of Chemistry

Course Code & Title	Credits	Credit Distribution of the Course	
		Theory	Practical
CH-MN-126T - Basics of Chemistry	2	2	--

LEARNING OBJECTIVES:

The Learning Objectives of this course are as follows:

- The empirical basic of chemical knowledge.
- Students must recognize that modern chemical science is based upon the idea of atom, their combination in compound, and their recombination in the course of chemical reaction.
- Students must have the necessary knowledge and strategies for the separation and identification.
- Get more basic information about organic and analytical chemistry.
- Student should know chemistry in everyday life.

COURSE OUTCOMES:

After completion of this course student will able to;

CO-1: Relate basic Concepts of Chemistry.

CO-2: Gain the information about various theories, Principles and Law.

CO-3: Gain the knowledge of hydrogen from periodic table.

CO-4: Classify elements based on electronic configuration.

CO-5: Differentiate between isotopes, isobars and isotones.

CO-6: Understand the dual nature of electron.

CO-7: Differentiate between quantitative and qualitative analysis.

CO-8: IUPAC nomenclature of organic compound.

CO-9: Draw the formulae of various isomers of organic compound.

SYLLABUS of CH-MN-126T:**(30 Hours)****Unit-I: Basic Concept of Chemistry****[06 Hours]**

Introduction, Importance of Chemistry, Definition of Chemistry, States of Matter, Nature of Chemistry Matter, Nature of Matter, law of Chemical Combination, Daltons Atomic Theory, Atomic and Molecular Masses, Pure Substances Versus Mixture, Measurement of Properties.

Unit-II: Modern Periodic Table**[04 Hours]**

Introduction, Structures of the Modern Periodic Table, Periodic Table and Electronic

Configuration, Electronic Configuration in Groups in Periods, Electronic Configuration in the Four Blocks.

Unit-III: Structure of Atom [04 Hours]

Discovery of Electron, Sub atomic Partials, Discovery of Proton, Discovery of Neutron, Atomic Number, and Atomic Mass Number, Isotopes, Isobars and Isotones.

Unit-IV: Introduction to Analytical Chemistry [04 Hours]

Introduction, Importance of Analytical Chemistry, Analysis, Chemical Method of Quantitative Analysis, Chemical Method of Quantitative Analysis.

Unit-V: Introduction to Organic Chemistry [04 Hours]

Introduction, Importance of Organic Chemistry, Structural Representation of organic molecules, Condensed Formula Bond Line Formula or Zig- Zag Formula, Drawing the Molecules in Three Dimensions, Wedge Formula, Fischer Projection Formula or Cross Formula, Newman Projection Formula, Sawhorse, Classification Based on Carbon Skeleton, Nomenclature of Organic Compound, Common/ Trivial Name of Straight Chain Alkenes.

Unit-VI: Polymer [04 Hours]

Introduction, Definition of Polymer, History of Polymer, Classification of Polymer, Types of Polymers, Degree of Polymerization, Problems Based on Degree of Polymerization, Uses of Polymer.

Unit-VII: Chemistry in Everyday Life [04 Hours]

Introduction, Basics of Food Chemistry, Browning of Cut Medicines, Fruit, Vegetable, Rancidity of Oil and Fats, Define Drug, Classification of Drugs, Chemical in, Cleansing Agents Soaps and Detergent.

ESSENTIAL/RECOMMENDED READINGS:

1. NCERT Fingertips Class XI+ XII Textbook.
2. Chemistry Standard XI.
3. Chemistry Standard XII.
4. Chemistry Arihant Handbook of Chemistry.
5. Pegasus Encyclopedia Library Chemistry Basics of Chemistry.
6. Teaching of Chemistry Dr.Aradhana Verma.
7. Fundamentals of Chemistry Dr.Ruby Mishra, Dr. Krishna Kumar Sing.
8. Basic Chemistry Concepts and Exercises John Kenkel.
9. Basics Chemistry Karen Timberlake, William Timberlake.

