Government P G College, Ambala Cantt
Course File(Session 2025-26)
Name of Associate Professor: Dr. Deepak Sharma
Class: B.Com. Gen.(Section A)/B.Com.Hon.-I/Ist Semester Subject code and Name: B23-CHE-104//MDC-1/Introductory Chemistry I

SYLLABUS

Maximum Marks: 50 **External: 35**

Time: 3 hours **Internal: 15**

Note: The examiner is requested to set nine questions in all, selecting two questions from each section and one question i.e. Question No.1, based on entire syllabus will consist of short answer type. All questions carry equal marks. The candidate is required to attempt five questions in all selecting one from each SECTION. Question No.1 is compulsory. Log table and nonprogrammable calculator is allowed.

UNIT-I

Atomic Structure and Bonding

Introduction, Elementary introduction of atomic structure and chemical bonding, Representation of elements/ atoms, Lewis structure, electronic configurations (1-30)

UNIT-II

Carbon and Its Compounds

Introduction, Tetravalency of Carbon, allotropes of carbon and their properties, hydrocarbons (1-5), nomenclature (linear compounds), Applications of hydrocarbons.

UNIT- III

Polymers

Introduction, elementary idea of synthetic and natural polymers, Homo polymers and copolymers, uses and properties (Natural rubber, Vulcanized rubber, Polyethene, PVC, Styrene, Teflon, PAN, Nylon-66)

UNIT-IV

Food Preservatives

Elementary idea of natural and synthetic food preservatives, rancidity, uses and properties, different food preservation processes (pickle, Jam), artificial sweeteners, uses and properties

Recommended Books:

1. Dhawan S.N.,Organic Chemistry, Vol 1 Pardeep Publication.
2. Subbulakshmi G, Food processing and preservation, New Age International Publishers.
3. Manas Chanda, 2013, Introduction to Polymer Science and Chemistry 2nd Edition,

COURSE OBJECTIVES

The Course Objectives are given below

- To have knowledge regarding matter and atom.
- To study the structure of atoms.
- To have better understanding of various particles such as electron, proton and neutron.
- To have better understanding various types of models of atom.
- To study the electronic configuration of various elements.
- To study the chemical bonding in molecules.
- To learn nomenclature and applications of hydrocarbons.
- To study different types of polymers, their uses and properties.
- To have the knowledge of food preservatives and process of food preservation.

COURSE OUTCOMES

After the successful completion of the course, students will be able:

- To explain the structure of atom.
- To understand and can differentiate various types of compounds on the basis of chemical bonding.
- To understand the various particles of atom.
- To explain the electronic configuration of elements.
- To justify the application of hydrocarbons.
- To differentiate the various types of polymers.
- To explain the process of food preservation.
- To justify the application of food preservatives.

LESSON PLAN

Sr. No.	Topics	No. of days	To be completed upto	Activities
	UNIT-I			
1	Atomic Structure and Bonding Introduction, Elementary introduction of atomic structure and chemical bonding.	11	Up to 26th August	Class Test
2	Representation of elements/ atoms, Lewis structure, electronic configurations (1-30)			
	UNIT-II			
3	Carbon and Its Compounds Introduction, Tetra valiancy of Carbon, allotropes of carbon and their properties	8	Up to 23rd September	Assignment-1
4	hydrocarbons (1-5), nomenclature (linear compounds), Applications of hydrocarbons.			
	UNIT-III			
5	Polymers Introduction, elementary idea of synthetic and natural polymers, Homo polymers and copolymers	7	Up to 28th October	
6	uses and properties (Natural rubber, Vulcanized rubber, Polythene, PVC, Styrene, Teflon, PAN, Nylon-66)			
	UNIT-IV			
7	Food Preservatives Elementary idea of natural and synthetic food preservatives, rancidity, uses and properties	6	Up to 18th November	
8	different food preservation processes (pickle, Jam), artificial sweeteners, uses and properties			Mid-term exam