
A Textbook of
Pharmacognosy
Diploma in Pharmacy 1st Year

As per PCI Syllabus

(A book as per the latest syllabus framed under the Education Regulations, 2020 (ER-2020) given by Pharmacy Council of India (PCI) New Delhi for D. Pharm students of all Indian Universities)

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Pharmacognosy
Diploma in Pharmacy 1st Year

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Preface

Pharmacy is a noble profession that combines science with service to humanity. The study of Pharmacognosy plays an important role in building a strong foundation for Pharmacy students, especially at the Diploma level. This book has been carefully prepared for Diploma First Year students to provide clear, simple, and basic knowledge of crude drugs, medicinal plants, and natural products.

The main aim of this book is to present the subject matter in an easy and understandable language so that students can grasp the basic concepts without difficulty. Each chapter is arranged in a systematic manner according to the prescribed PCI syllabus framed under the Education Regulations, 2020 (ER-2020). Important definitions, classifications, evaluation methods, and applications of crude drugs are explained with suitable examples. Tables, diagrams, and short points have been included to make learning more effective and interesting.

Special attention has been given to topics such as identification of crude drugs, quality control, adulteration, and phytochemical investigation. Efforts have been made to connect traditional knowledge with modern scientific approaches in herbal medicine.

This book will not only help students prepare for examinations but also develop their understanding of medicinal plants and natural drug resources. It will serve as a useful guide for classroom learning, self-study, and competitive examinations.

We sincerely hope that this book will be helpful to students, teachers, and all those who are interested in the field of Pharmacognosy. Suggestions for improvement are always welcome and will be appreciated for future editions.

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Syllabus

Pharmacognosy – Theory

Course Code: ER20-13T

75 Hours (3 Hours/week)

- **Scope:** This course is designed to impart knowledge on the medicinal uses of various drugs of natural origin. Also, the course emphasizes the fundamental concepts in the evaluation of crude drugs, alternative systems of medicine, nutraceuticals, and herbal cosmetics.
- **Course Objectives:** This course will discuss the following aspects of drug substances derived from natural resources.
 1. Occurrence, distribution, isolation, identification tests of common phytoconstituents
 2. Therapeutic activity and pharmaceutical applications of various natural drug substances and phytoconstituents
 3. Biological source, chemical constituents of selected crude drugs and their therapeutic efficacy in common diseases and ailments
 4. Basic concepts in quality control of crude drugs and various system of medicines
 5. Applications of herbs in health foods and cosmetics
- **Course Outcomes:** Upon successful completion of this course, the students will be able to
 1. Identify the important/common crude drugs of natural origin
 2. Describe the uses of herbs in nutraceuticals and cosmeceuticals
 3. Discuss the principles of alternative system of medicines
 4. Describe the importance of quality control of drugs of natural origin

Chapter	Topic	Hours
1	Definition, history, present status and scope of Pharmacognosy	2
2	Classification of drugs: Alphabetical, Taxonomical, Morphological Pharmacological Chemical, Chemo-taxonomical	4
3	Quality control of crude drugs: Different methods of adulteration of crude drugs, Evaluation of crude drugs	6
4	Brief outline of occurrence, distribution, isolation, identification tests, therapeutic activity and pharmaceutical applications of alkaloids, terpenoids, glycosides, volatile oils, tannins and resins	6
5	Biological source, chemical constituents and therapeutic efficacy of the following categories of crude drugs	30
	Laxatives: Aloe, Castor oil, Ispaghula, Senna	
	Cardiotonic: Digitalis, Arjuna	
	Carminatives and G.I. regulators: Coriander, Fennel, Cardamom, Ginger, Clove, Black Pepper, Asafoetida, Nutmeg, Cinnamon	
	Astringents: Myrobalan, Black Catechu, Pale Catechu	
	Drugs acting on nervous system Hyoscyamus, Belladonna, Ephedra, Opium, Tea leaves, Coffee seeds, Coca	
	Anti-hypertensive: Rauwolfia	
	Anti-tussive: Vasaka, Tolu Balsam	
	Anti-rheumatics: Colchicum seed	
	Anti-tumour: Vinca, Podophyllum	
	Antidiabetics: Pterocarpus, Gymnema	
	Diuretics: Gokhru, Punarnava	
	Anti-dysenteric: Ipecacuanha	
	Antiseptics and disinfectants: Benzoin, Myrrh, Neem, Turmeric	
	Antimalarials: Cinchona, Artemisia	
	Oxytotic: Ergot	
	Vitamins: Cod liver oil, Shark liver oil	
	Enzymes: Papaya, Diastase, Pancreatin, Yeast	
	Pharmaceutical Aids: Kaolin, Lanolin, Beeswax, Acacia, Tragacanth, Sodium alginate, Agar, Guar gum, Gelatine	
	Miscellaneous: Squill, Galls, Ashwagandha, Tulsi, Guggul	
6	Plant fibres used as surgical dressings: Cotton, silk, wool and regenerated fibres Sutures – Surgical Catgut and Ligatures	3
7	Basic principles involved in the traditional systems of medicine like: Ayurveda, Siddha, Unani and Homeopathy Method of preparation of Ayurvedic formulations like: Arista, Asava, Gutika, Taila, Churna, Lehya and Bhasma	8

Chapter	Topic	Hours
8	Role of medicinal and aromatic plants in national economy and their export potential	2
9	Herbs as health food: Brief introduction and therapeutic applications of: Nutraceuticals, Antioxidants, Pro-biotics, Pre-biotics, Dietary fibres, Omega-3-fatty acids, Spirulina, Carotenoids, Soya and Garlic	4
10	Introduction to herbal formulations	4
11	Herbal cosmetics: Sources, chemical constituents, commercial preparations, therapeutic and cosmetic uses of: Aloe vera gel, Almond oil, Lavender oil, Olive oil, Rosemary oil, Sandal Wood oil	4
12	Phytochemical investigation of drugs	2

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