

PHARMACOGNOSY
AND
PHYTOCHEMISTRY-II

Dr. Maitreyi Zaveri
Dr. Khushboo K. Vaghela
Dr. Bhavita Dhru
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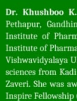
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We are Finally, we wish to acknowledge the editorial and publication team.

PREFACE

It gives us great pleasure in placing this book in the hands of the Third Year B. Pharm students. The contents of this book have been prepared in accordance with the syllabus prescribed in Pharmacy Council of India (PCI) IN 2016-2017.

This book is assembling with the intent of imparting best understanding to the students about the subject. However, it may be useful for students of other faculties and universities.

This book consists of various chapters like.....

With suitable diagrams.

We will happy and always well come the suggestions from faculties and students to improve the content and quality of book in subsequent edition.

While describing the course contents, sufficient care has been taken to quote the suitable examples of medicinal and pharmaceutical importance where so ever applicable.

We hope the valuable information given in this book will be definitely useful to the students, while studying the Third Year B. Pharm degree course.

ABOUT THE AUTHORS

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COURSE CONTENT

UNIT-I

Metabolic pathways in higher plants and their determination

a) Brief study of basic metabolic pathways and formation of different secondary metabolites through these pathways- Shikimic acid pathway, Acetate pathways and Amino acid pathway.

b) Study of utilization of radioactive isotopes in the investigation of Biogenetic studies.

UNIT-II

General introduction, composition, chemistry & chemical classes, bio sources, methods of extraction, therapeutic uses and commercial applications of following secondary metabolites:

Alkaloids: Vinca, Rauwolfia, Belladonna, Opium,

Phenylpropanoids and Flavonoids: Lignans, Tea, Ruta Steroids,

Cardiac Glycosides & Triterpenoids: Liquorice, Dioscorea, Digitalis

Volatile oils: Mentha, Clove, Cinnamon, Fennel, Coriander,

Tannins: Catechu, Pterocarpus

Resins: Benzoin, Guggul, Ginger, Asafoetida, Myrrh, Colophony

Glycosides: Senna, Aloes, Bitter Almond

Iridoids, Other terpenoids & Naphthaquinones: Gentian, Artemisia, taxus, carotenoids

UNIT-III

Isolation, Identification and Analysis of Phytoconstituents

a) Terpenoids: Menthol, Citral, Artemisin

b) Glycosides: Glycyrrhetic acid & Rutin

c) Alkaloids: Atropine, Quinine, Reserpine, Caffeine

d) Resins: Podophyllotoxin, Curcumin

UNIT-IV

Industrial production, estimation and utilization of the following phytoconstituents: Forskolin, Sennoside, Artemisinin, Diosgenin, Digoxin, Atropine, Podophyllotoxin, Caffeine, Taxol, Vincristine and Vinblastine

UNIT V

Basics of Phytochemistry Methods of extraction (Soxhlet, Maceration, Percolation, Supercritical fluid extraction, Microwave assisted extraction, Ultrasound assisted extraction, Solid Phase Extraction) Application of latest techniques like Spectroscopy, Chromatography and electrophoresis in the isolation, purification and identification of crude drugs

Non-chromatographic separation techniques: Fractional distillation, fractional liberation, sublimation, chemical derivatization, fractional crystallization, centrifugation, Froth floatation technique.

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