

# PHARMACOTHERAPEUTICS Theory and Practical

Course Codes ER20-24T and ER20-24P for Second Year Diploma in Pharmacy

aims to help in bridging the existing gap of long-needed demand for budding pharmacy technocrats, academicians and pharmacists, especially the young professionals in pharmacy.

The main objective of the book is to explain the fundamentals of pharmacotherapeutics in the simplest possible language, in an easy to understand way for the students. The textbook keeps a balance between the basic essentials and advanced areas of knowledge, apart from discussing the usual topics.

Effort has been made mainly to focus on the primary aspects for students of pharmacy completing their diploma course as per latest PCI Course Regulation 2020 (subject codes ER20-24T and ER20-24P). The book covers a wide range of areas in brief and contains a comprehensive description. The basic text in simple language not only deals with the basic concepts but also emphasizes technical and practical aspects of the subject. The most distinguishing feature of the book is isolated key points at the end of each chapter. Experiments in pharmacotherapeutics are highly useful for the readers.

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for Second Year Diploma in Pharmacy

As per the latest syllabus prescribed by Pharmacy Council of India



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*to*  
*our loving kids*  
**Shreya and Vaidish**



**Shilpi Agarwal and Gaurav Agarwal**

*to*  
*Almighty God (Mahadev)*  
*and my mom, dad and family members for the time*  
*that they have sacrificed so that this would become a reality*  
**Mayank Patel**





## Preface

This book *Pharmacotherapeutics* is designed specifically as per PCI (Pharmacy Council of India) Education Regulations, 2020 for Diploma Course in Pharmacy Second Year students covering entire syllabus of ER20-24T and ER20-24P. It contains a comprehensive description and overview of existing knowledge of pharmacotherapeutics that makes it appropriate for introductory and institutional purposes.

Being an interdisciplinary subject, it is today covering a wide range of interest both among the students and teaching communities. Taking this increasing interest into account, this book gives a comprehensive introduction to the subject. The text not only deals with the basic concepts but also emphasizes technical and practical aspects of the subject. The book is primarily intended as text for students of pharmacy for degree and diploma courses.

The book contains numerous specimens, vivid illustrations, tables, diagrams and flow diagrams to present the ideas in simplified manner. The structure and the contents of the book have changed to reflect modern thinking and current university curricula throughout the world. The distinguishing feature is practical related to subject at the end of the book. In spite of great care there might be some mistakes and deficiencies. I will be grateful for giving suggestions to improve upon myself. So, go through the contents and do mail to me at [gbitsian@rediffmail.com](mailto:gbitsian@rediffmail.com).

**Mayank Patel**  
**Shilpi Agarwal**  
**Gaurav Agarwal**



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# Syllabus

## THEORY

**Course Code: ER20-24T**      **75 Hours (3 Hours/Week)**

### Scope

This course is designed to impart basic knowledge on etiopathogenesis of common diseases and their management along with quality use of medicines.

### Course Objectives

This course will discuss about:

1. Etiopathogenesis of selected common diseases and evidence-based medicine therapy.
2. Importance of individualized therapeutic plans based on diagnosis.
3. Basic methods for assessing the clinical outcomes of drug therapy.

### Course Outcomes

Upon successful completion of this course, the students will be able to:

1. Help assessing the subjective and objective parameters of patients in common disease conditions.
2. Assist other healthcare providers to analyse drug-related problems and provide therapeutic interventions.
3. Participate in planning the rational medicine therapy for common diseases.
4. Design and deliver discharge counselling for patients.

<i>Chapter</i>	<i>Topics</i>	<i>Hours</i>
1	Pharmacotherapeutics—Introduction, scope and objectives, Rational use of Medicines, Evidence Based Medicine, Essential Medicines List, Standard Treatment Guidelines (STGs)	8

(Contd.)

<i>Chapter</i>	<i>Topics</i>	<i>Hours</i>
2	<b>Definition, etiopathogenesis, clinical manifestation, non-pharmacological and pharmacological management of the diseases associated with:</b>	
	<b>(a) Cardiovascular System</b>	8
	• Hypertension	
	• Angina and Myocardial infarction	
	• Hyperlipidaemia	
	• Congestive Heart Failure	
	<b>(b) Respiratory System</b>	8
	• Asthma	
	• COPD	
	<b>(c) Endocrine</b>	5
	• Diabetes	
	• Thyroid disorders—Hypo- and Hyperthyroidism	
	<b>(d) Central Nervous System</b>	8
	• Epilepsy	
	• Parkinson's disease	
	• Alzheimer's disease	
	• Stroke	
	• Migraine	
	<b>(e) Gastrointestinal Disorders</b>	8
	• Gastro-oesophageal reflux disease	
	• Peptic ulcer disease	
	• Alcoholic liver disease	
	• Inflammatory bowel diseases (Crohn's disease and ulcerative colitis)	
	<b>(f) Haematological Disorders</b>	4
	• Iron deficiency anaemia	
	• Megaloblastic anaemia	
	<b>(g) Infectious Diseases</b>	12
	• Tuberculosis	
	• Pneumonia	
	• Urinary tract infections	
	• Hepatitis	
	• Gonorrhoea and syphilis	
	• Malaria	
	• HIV and opportunistic infections	
	• Viral infections (SARS, CoV-2)	
	<b>(h) Musculoskeletal Disorders</b>	3
	• Rheumatoid arthritis	
	• Osteoarthritis	

*(Contd.)*

Syllabus		xvii
<i>Chapter</i>	<i>Topics</i>	<i>Hours</i>
	<b>(i) Dermatology</b>	3
	• Psoriasis	
	• Scabies	
	• Eczema	
	<b>(j) Psychiatric Disorders</b>	4
	• Depression	
	• Anxiety	
	• Psychosis	
	<b>(k) Ophthalmology</b>	
	• Conjunctivitis (bacterial and viral)	
	• Glaucoma	
	<b>(l) Antimicrobial Resistance</b>	2
	<b>(m) Women's Health</b>	4
	• Polycystic ovary syndrome	
	• Dysmenorrhea	
	• Premenstrual syndrome	

### PRACTICAL

**Course Code: ER20-24P**

**25 Hours (1 Hour/Week)**

#### Scope

This course is designed to train the students in the basic skills required to support the pharmaceutical care services for selected common disease conditions.

#### Course Objectives

This course will train the students on:

1. How to prepare a SOAP (Subjective, Objective, Assessment and Plan) note for clinical cases of selected common diseases.
2. Patient counselling techniques/methods for common disease conditions.

#### Course Outcomes

Upon successful completion of this course, the students will be able to:

1. Write SOAP (Subjective, Objective, Assessment and Plan) notes for the given clinical cases of selected common diseases.

2. Counsel the patients about the disease conditions, uses of drugs, methods of handling and administration of drugs, lifestyle modifications, and monitoring parameters.

### **Practicals**

- I. Preparation and discussion of SOAP (Subjective, Objective, Assessment and Plan) notes for at least SIX clinical cases (real/hypothetical) of the following disease conditions:
  1. Hypertension
  2. Angina pectoris
  3. Myocardial infarction
  4. Hyperlipidaemia
  5. Rheumatoid arthritis
  6. Asthma
  7. COPD
  8. Diabetes
  9. Epilepsy
  10. Stroke
  11. Depression
  12. Tuberculosis
  13. Anaemia (any one type as covered in theory)
  14. Viral infection (any one type as covered in theory)
  15. Dermatological conditions (any one condition as covered in theory)
- II. Patient counselling exercises using role plays based on the real/hypothetical clinical case scenarios. The students are expected to provide counselling on disease condition, medications, lifestyle modifications, monitoring parameters, etc. and the same shall be documented (minimum 5 cases).
- III. Simulated cases to enable dose calculation of selected drugs in paediatrics, and geriatrics under various pathological conditions (minimum 4 cases).