

CBS Confident Pharmacy Series

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CBS Confident Pharmacy Series

Fourth Edition

Fourth  
Edition

Fourth Edition

# Human Anatomy and Physiology

for First Year Diploma in Pharmacy

Course Code: ER20-14T

The fourth edition of this book (theory) is strictly written according to new syllabus framed by Pharmacy Council of India (PCI) as per ER-2020. This book is presented and published to meet the requirements of students of first year Diploma in Pharmacy (D Pharm). The book, written in a simple and lucid language, attempts to demystify and simplify the basic concepts for the students of pharmacy for proper understanding of the subject and to get a sure success in the State Board Examinations.

Salient features of the book :

- All topics are described in an easy to understand language.
- Gives to-the-point answers.
- Covers all the requisite contents as per new syllabus.
- Shows success key in Board Examination.

This book, as well as **CBS Confident Pharmacy Series**, will be useful not only for the students and teachers but also for candidates desiring to attempt competitive examinations for job opportunities in pharmacy profession such as hospital pharmacists in PHCs, civil hospitals, etc.

**VN Raje** MPharm is currently Principal, Gaurishankar Education Society's GES College of Pharmacy (D Pharm), Limb, Satara, Maharashtra. He has an excellent track record in pharmacy academics with 31 years of rich experience as a teacher and principal at diploma in pharmacy institution. He is presenting personality development and career guidance programmes to the students and staff.



He is recipient of 'Best Participation Award' at national level IAPST conference held in 2011. Since 2008, he has been writing books in the field of pharmacy: So far he has published 11 popular titles, each title going to the third edition.

Now, as per PCI's new syllabus (ER-2020), he is in the process of completing fourth edition of 6 titles and bringing out fresh edition of 5 new titles according to the recent subjects introduced in the syllabus.

Human Anatomy and Physiology

Raje

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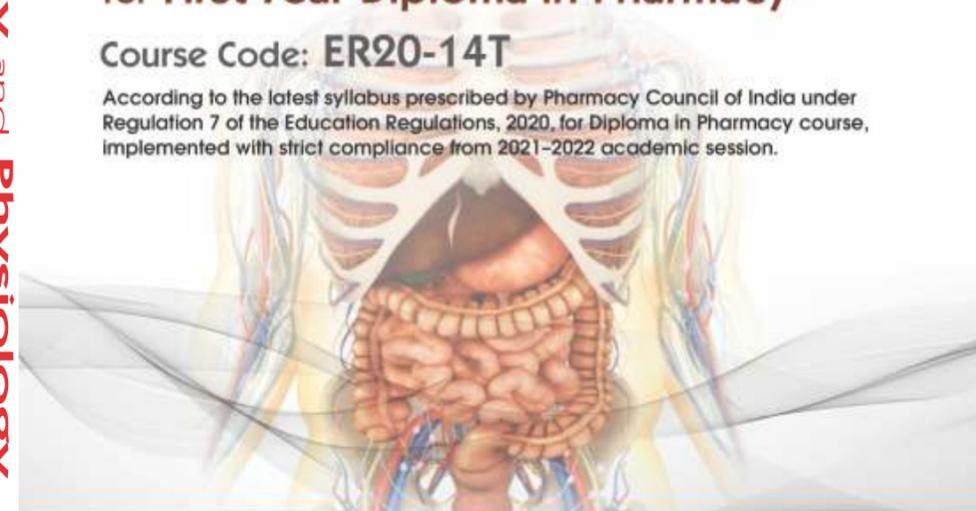


# Human Anatomy and Physiology

for First Year Diploma in Pharmacy

Course Code: ER20-14T

According to the latest syllabus prescribed by Pharmacy Council of India under Regulation 7 of the Education Regulations, 2020, for Diploma in Pharmacy course, implemented with strict compliance from 2021-2022 academic session.



VN Raje



Dedicated to Education  
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**CBS Confident Pharmacy Series**

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# **Human Anatomy and Physiology**

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**Fourth Edition**

**for First Year Diploma in Pharmacy  
Strictly Based on PCI New Syllabus as per ER-2020**

## **Salient Features**

- Lucid and easy language
- To the point answers
- Remembering the concepts in the simplest way
- Infusing confidence in the reader to appear in the board examinations



**CBS Confident Pharmacy Series**

# **Human Anatomy and Physiology**

**Fourth Edition**

**for First Year Diploma in Pharmacy  
Strictly Based on PCI New Syllabus as per ER-2020**

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# Preface to the Fourth Edition

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This edition of book gives confident success to all the students. The book has been written to meet the requirements of students of Diploma in Pharmacy (D Pharm) in accordance with the new revised syllabus ER-2020 prescribed by Pharmacy Council of India.

This book is small and humble effort has been put in for compiling necessary information on the subject. An attempt has been made to demystify and simplify the basic concepts for the students of pharmacy and to enable them get an evergreen success in MSBTE examinations.

The salient features of the present book are:

- Lucid and easy language
- To the point answers
- Remembering facts in the simplest way
- Infusing confidence in the reader to appear in the board examinations.

Hence the series is named

### **CBS Confident Pharmacy Series**

I am confident that this book will be useful to both the students and the teachers of Diploma in Pharmacy as well as the candidates desiring to succeed in competitive examinations for better job opportunities in pharmacy profession such as hospital pharmacists in PHCs, civil hospitals, etc.

**Raje Vijay N**

to  
*my beloved family*

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I express my heartfelt thanks to Prof Madan Jagtap, Chairman, Gourishankar Education Society, Satara Maharashtra, for consistent encouragement and inspiration for writing this book.

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I am also thankful to Shri Satish Kumar Jain, Chairman and Managing Director, and Shri Shantanu Sarkar, General Manager, Mumbai Branch, CBS Publishers & Distributors Pvt Ltd, for their sustained efforts and keen interest in the publication of this book.

I wish all my beloved students to have a great success in the Board Examinations.

**Raje Vijay N**

**Syllabus**  
(As per ER-2020)  
**Human Anatomy and Physiology**

1. **Scope of anatomy and physiology:** Definition of various terms used in anatomy.
2. **Structure of cell:** Function of its components with special reference to mitochondria and microsomes.
3. **Tissues of the human body:** Epithelial, connective, muscular and nervous tissues, their sub-types and characteristics.
4. a. **Osseous system:** Structure and functions of bones of axial and appendicular skeleton.  
b. Classification, types and movements of joints, disorders of joints.
5. **Haemopoietic system:** Composition and functions of blood, process of haemopoiesis, characteristics and functions of RBCs, WBCs and platelets, mechanism of blood clotting, importance of blood groups.
6. **Lymphatic system:** Lymph and lymphatic system, composition, function and its formation, structure and functions of spleen and lymph node.
7. **Cardiovascular system:** Anatomy and physiology of heart, blood vessels and circulation (pulmonary, coronary and systemic circulation), cardiac cycle, heart sounds, basic knowledge of ECG, blood pressure and its regulation.
8. **Respiratory system:** Anatomy of respiratory organs and their functions, regulation and mechanism of respiration, respiratory volumes and capacities—definitions.
9. **Digestive system:** Anatomy and physiology of GIT, anatomy and functions of accessory glands, physiology of digestion and absorption.
10. **Skeletal muscles:** Histology, physiology of muscle contraction, disorders of skeletal muscles.

11. **Nervous system:** Classification of nervous system, anatomy and physiology of cerebrum, cerebellum, mid-brain, functions of hypothalamus, medulla oblongata, and basal ganglia, spinal cord-structure and reflexes, names and functions of cranial nerves, anatomy and physiology of sympathetic and parasympathetic nervous system (ANS).
12. **Sense organs:** Anatomy and physiology of eye, ear, skin, tongue and nose.
13. **Urinary system:** Anatomy and physiology of urinary system, physiology of urine formation, renin-angiotensin system, clearance tests and micturition.
14. **Endocrine system (hormones and their functions):** Pituitary gland, adrenal gland, thyroid and parathyroid gland, pancreas and gonads.
15. **Reproductive system:** Anatomy of male and female reproductive system, physiology of menstruation, spermatogenesis and oogenesis, pregnancy and parturition.

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