

Second Edition

Second Edition

Practical Human **Anatomy** and **Physiology** for Pharmacy Students

Course Codes: BP107P and BP207P

covers the curriculum and syllabus designed for students of pharmacy as per recommendation of universities and Pharmacy Council of India and other South Asian countries.

The second edition has been written and revised for the benefit of the students of bachelor's and master's courses in pharmacy; it is likely to be helpful to diploma in pharmacy students also.

Key Features of the Book

- Simple text and graphics for easily understanding the topics and smooth reproducibility.
- **Questions and answers** have been simplified and modified.
- New practicals such as platelet count, reticulocyte count in haematology section, and central nervous system examination have been included in this edition.
- Structured objectives behind learning every practical.
- Procedures and explanations are brief, crisp and to the point.
- Charts | models on topics from the course content.
- Clinical case scenarios exclusively cover applied clinical physiology and help the students in understanding basis of pharmacological applicability clearly.

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Practical Human **Anatomy** and **Physiology**
for Pharmacy Students

for Pharmacy Students

NA John



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Course Codes: BP107P and BP207P

• Text and Viva Voce • Questions and Answers • Colour Plates

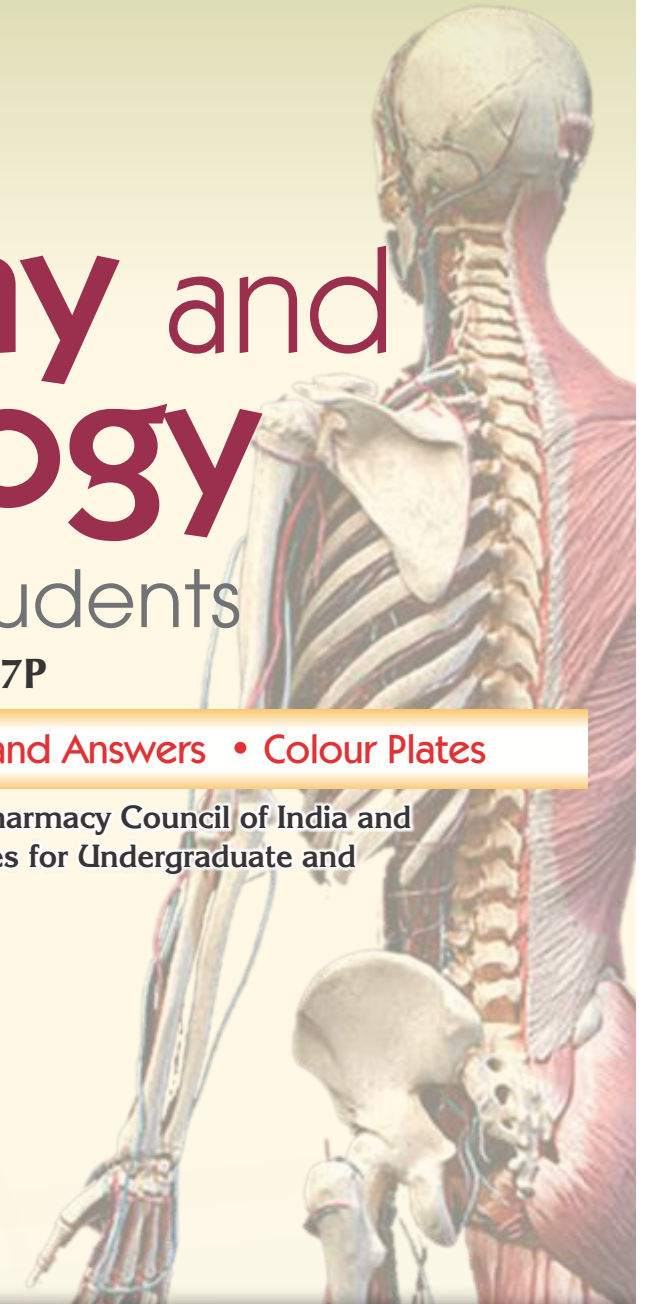
Covers the Curricula Recommended by Pharmacy Council of India and Indian and International Health Universities for Undergraduate and Postgraduate Courses in Pharmacy



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Practical
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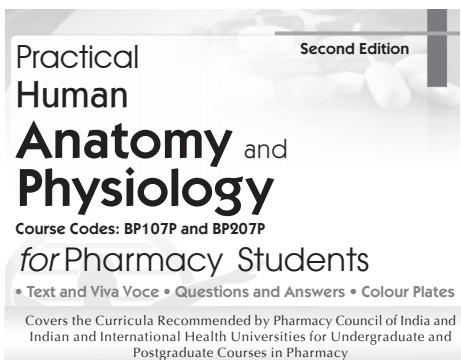
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The book is designed to also meet the requirements of pharmacy students covering the curricula of universities in Malaysia, Indonesia, Singapore, Philippines, Thailand, Sri Lanka, Pakistan, Nepal, Saudi Arabia and Bangladesh.

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Preface to the Second Edition

This second edition has been written for undergraduate and postgraduate pharmacy students which shall be helpful to diploma pharmacy students too. The book covers the curriculum and syllabus designed for students of pharmacy as per recommendation of universities and Pharmacy Council of India and other International South Asian countries.

Key Features of the Book

- Simplified text for easy reproducibility.
- Questions and answers have been simplified and modified.
- New practicals such as platelet count, reticulocyte count in haematology section and central nervous system examination have been included in the present edition.
- Structured objectives behind learning every practical.
- Procedures and explanations are crisp and to the point.
- Charts/models on topics from the course content.
- The multiple choice questions of the practical will help the student to self-assess whether he/she has understood the topic. These multiple choice questions with answer key will be helpful for students to prepare for theory and practical, viva voce and postgraduate entrance examinations.
- Clinical case scenarios exclusively cover applied clinical physiology and help students understand basis of pharmacological applicability.

The book, designed on the pattern of international curriculum, will help the students in preparing for admissions to the international universities abroad.

I am thankful to Mr Satish Kumar Jain, CMD, Mr Varun Jain, Director, Mr YN Arjuna, Senior Vice President—Publishing, Editorial and Publicity and the publishing team of CBS Publishers and Distributors, New Delhi, for suggestions, support and encouragement for further updating and coming up with a student-friendly second edition. In spite of the best efforts, some errors may have made way to print. Suggestions and contributions of students and teachers are invited for further upgrading the book and enlightening the students in acquiring the best clinical skills.

Acknowledgement: I would like to acknowledge CC Chatterjee's *Human Physiology*, Fourteenth edition, as text for the questions and answers have been taken from this book.

Nitin Ashok John

Preface to the First Edition

A vailability of suitable practical book of anatomy and physiology exclusively designed for students of pharmacy is scarce. The understanding of the subject with clinical and pharmaceutical perspectives is essential for both the undergraduate and postgraduate students of pharmacy so as to build strong basic foundation for application while learning pharmaceuticals. The book covers the curriculum and syllabus designed for students of pharmacy as per recommendation of universities and Pharmacy Council of India and other International South Asian countries.

All topics are covered with special emphasis on applied clinical anatomy and physiology in health and disease.

Key Features of the Book

- Structured objectives behind learning every practical.
- Procedures and explanations are crisp and to the point.
- Charts/models on topics from the course content.
- Developmental historical aspects and scientific contributions of the designed practical and techniques have been elaborated.
- The multiple choice questions of the practical will help the student to self-assess whether he/she has understood the topic. These multiple choice questions with answer key will be helpful for students to prepare for theory and practical, viva voce and postgraduate entrance examinations.
- Clinical case scenarios exclusively cover applied clinical anatomy and physiology and help students understand basis of pharmacological applicability.
- Pharmacology update will be enlightening pharmacist for learning recent advances in anatomy, physiology and pharmacology.
- Recent advances section for each practical will help the meritorious students and students having research bent of mind to explore the undiscovered.
- The book, designed on the pattern of international curriculum, will help the students in preparing for admissions to the international universities abroad.

In spite of the best efforts, some errors may have made way to print. Suggestions and contributions of students and teachers are invited for further upgrading the book and enlightening the students in acquiring the best clinical skills.

Nitin Ashok John

Syllabus

Human Anatomy and Physiology—Practical

4 Hours/week

Practical physiology is complementary to the theoretical discussions in physiology. Practicals allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings. This is helpful for developing an insight on the subject.

Course Code: BP107P

1. Study of compound microscope.
2. Microscopic study of epithelial and connective tissue
3. Microscopic study of muscular and nervous tissue
4. Identification of axial bones
5. Identification of appendicular bones
6. Introduction to hemocytometry.
7. Enumeration of white blood cell (WBC) count
8. Enumeration of total red blood corpuscles (RBC) count
9. Determination of bleeding time
10. Determination of clotting time
11. Estimation of hemoglobin content
12. Determination of blood group.
13. Determination of erythrocyte sedimentation rate (ESR).
14. Determination of heart rate and pulse rate.
15. Recording of blood pressure.

Course Code: BP207P

4 Hours/week

1. To study the integumentary and special senses using specimen, models, etc.
2. To study the nervous system using specimen, models, etc.
3. To study the endocrine system using specimen, models, etc
4. To demonstrate the general neurological examination
5. To demonstrate the function of olfactory nerve
6. To examine the different types of taste.
7. To demonstrate the visual acuity
8. To demonstrate the reflex activity
9. Recording of body temperature
10. To demonstrate positive and negative feedback mechanism.
11. Determination of tidal volume and vital capacity.
12. Study of digestive, respiratory, cardiovascular systems, urinary and reproductive systems with the help of models, charts and specimens.
13. Recording of basal mass index
14. Study of family planning devices and pregnancy diagnosis test.
15. Demonstration of total blood count by cell analyser
16. Permanent slides of vital organs and gonads.

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