

SYSTEMIC PHARMACOLOGY - I

MR. SATYA PRAKASH

Assistant Professor

Department of Pharmacy

Lala Birkha Ram College of Pharmacy,
Panchkula, Haryana, INDIA

MS. ANKEETA

Assistant Professor

Department of Pharmacy

Lala Birkha Ram College of Pharmacy,
Panchkula, Haryana, INDIA

DR. ROHIT BANGWAL

Assistant Professor

College of Pharmacy, COER University,
Roorkee, Uttarakhand, INDIA

SYSTEMIC PHARMACOLOGY - I

Copyright© : Satya Prakash
Publishing Rights® : VSRD Academic Publishing
A Division of Visual Soft India Pvt. Ltd.

ISBN-13: 978-93-48703-04-0

FIRST EDITION, JUNE 2026

Printed & Published by:
VSRD Academic Publishing
(A Division of Visual Soft India Pvt. Ltd.)

Disclaimer: The author(s) / Editor(s) are solely responsible for the contents compiled in this book. The publishers or its staff do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the Author(s) or Editor(s) or Publishers to avoid discrepancies in future.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Publishers & Author.

Printed & Bound in India

VSRD ACADEMIC PUBLISHING
A Division of Visual Soft India Pvt. Ltd.

REGISTERED OFFICE

154, Tezabmill Campus, Anwarganj, KANPUR-208003 (UP) (IN)
Mb:9899936803, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

MARKETING OFFICE

340, FF, Adarsh Nagar, Oshiwara, Andheri(W), MUMBAI-400053 (MH) (IN)
Mb:9956127040, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

PREFACE

Systemic Pharmacology-I is an important branch of pharmacology that deals with the study of drugs acting on different systems of the human body, their mechanisms of action, therapeutic uses, adverse effects, contraindications, and clinical significance. A proper understanding of systemic pharmacology helps students develop a strong foundation for rational and safe use of medicines in clinical practice.

This practical and theoretical knowledge is essential for pharmacy students to understand the pharmacological basis of treatment of various diseases related to the nervous system, cardiovascular system, respiratory system, blood, kidney, immune system, and inflammatory disorders.

The objective of this work is to present the subject matter in a simple, systematic, and student-friendly manner. Efforts have been made to include important classifications, mechanisms, therapeutic uses, and adverse effects of drugs in a concise yet comprehensive form for better understanding and academic preparation.

I sincerely hope that this material will be useful for students, teachers, and healthcare learners in gaining clear concepts of Systemic Pharmacology-I.

 *Satya Prakash*

ACKNOWLEDGEMENT

I express my sincere gratitude to all those who directly and indirectly contributed to the successful completion of this book, Systemic **Pharmacology - I**. This work has been prepared with the objective of presenting the fundamental concepts of pharmacology in a clear, concise, and systematic manner for the benefit of students and learners.

I am thankful to my colleagues and well-wishers for their valuable support, encouragement, and guidance throughout the preparation of this manuscript.

I extend my heartfelt appreciation to **VSRD Academic Publishing** for their cooperation and for providing the opportunity to publish this work.

I am deeply grateful to my mother, **Lakshmi Devi**, and my family for their constant blessings, patience, motivation, and unwavering support throughout this endeavour.

Above all, I thank the Almighty for granting me strength, wisdom, and perseverance to accomplish this task.

 *Satya Prakash*

“Dedicated to the Cherished Memory of

My Beloved Father

Shri Anil Kumar

*whose values, sacrifices,
guidance, and blessings
continue to inspire me
in every achievement of my life”*

— *Satya Prakash*

CONTENTS

CHAPTER ONE: PHARMACOLOGY OF DRUGS

ACTING ON THE PERIPHERAL NERVOUS SYSTEM..... 1

- 1.1. *Introduction*..... 1
- 1.2. *Important Drugs and Uses*..... 14
- 1.3. *Important Drugs* 20

CHAPTER TWO: PHARMACOLOGY OF DRUGS

ACTING ON THE CARDIOVASCULAR SYSTEM 25

- 2.1. *Introduction*..... 25
- 2.2. *Drugs Used in Ischemic Stroke*..... 46

CHAPTER THREE: PHARMACOLOGY OF DRUGS

ACTING ON BLOOD AND KIDNEY 49

- 3.1. *Anti-platelet Agents*..... 49
- 3.2. *Coagulants and Anticoagulants*..... 52
- 3.3. *Fibrinolytics and Plasma Expanders*..... 55
- 3.4. *Haematinicss* 55
- 3.5. *Anti-hyperlipidaemic Drugs*..... 57

CHAPTER FOUR: PHARMACOLOGY OF

AUTACOIDS AND RELATED DRUGS 63

- 4.1. *Introduction*..... 63
- 4.2. *Therapeutic Significance of Important Autacoids*..... 65
- 4.3. *Drugs Used in Migraine*..... 76
- 4.4. *Paracetamol* 78

CHAPTER FIVE: PHARMACOLOGY OF DRUGS ACTING ON RESPIRATORY AND

IMMUNE SYSTEM 83

- 5.1. *Pharmacology of Drugs Acting on Respiratory System* 83
- 5.2. *Pharmacology of Drugs Acting on Immune System* 89