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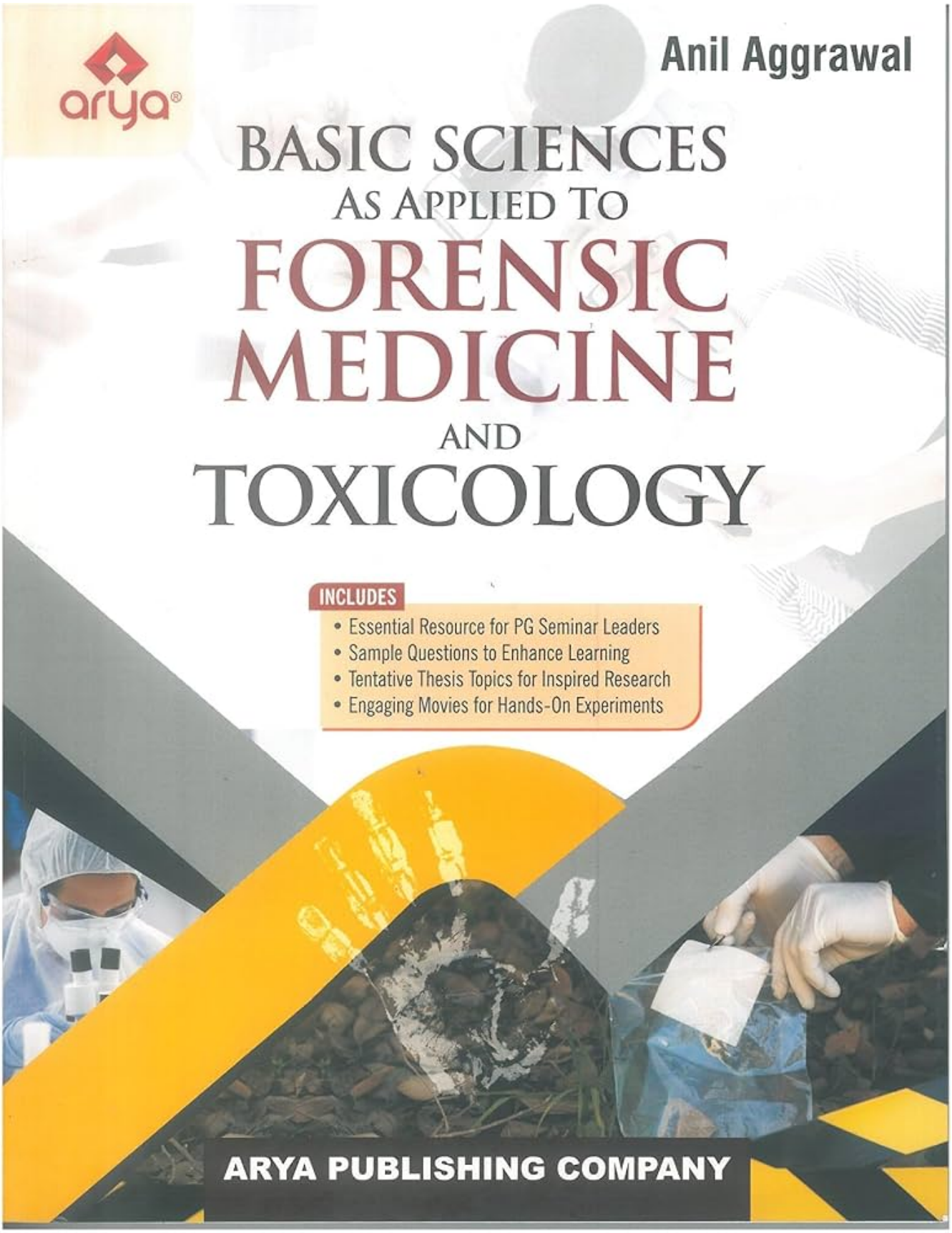
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Basic Sciences as applied to Forensic Medicine and Toxicology by Anil Aggrawal

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Basic Sciences as applied to Forensic Medicine and Toxicology, 1st Edition, Publication date: 2025, by Anil Aggrawal, Paperback, Publisher: Arya Publishing Company, ISBN 9789360590864, Language: English, Pages: XVIII + 301. Price: ₹ 1310.



A forensic masterclass in basic sciences for postgraduates.

The current book by the Author is an attempt- novel and unique, in the sense that the effort is inspired by the Indian post-graduate curriculum designed by the erstwhile Medical Council of India (known as National Medical Commission now) for M.D. course in the discipline of Forensic

Medicine, more specifically the Paper-I of the Theory examination. The import of the title “Basic Sciences as Applied to Forensic Medicine and Toxicology” is very wide in scope and pertains to all the relevant anatomy, biochemical and physiologic principles, etc which is the basis of understanding the morbid anatomy and application of those to better understand the core Forensic Pathology.

The book is an attempt to provide a one stop solution to the postgraduates in the discipline who earlier had to scroll through voluminous texts of Anatomy, Physiology, Biochemistry, etc to derive examination oriented content for better presentation in the examinations. Although the relevant basic sciences applicable to particular topics of interest in Forensic Medicine have already been provided by the Author in his earlier books viz. Textbook of Forensic Medicine & Toxicology, Injuries- Forensic and Medico Legal Aspects and Clinical and Forensic Toxicology, the present book goes several leaps ahead to explain most commonly asked topics from the entire ream of basic sciences which are some of the emerging domains e.g. stem cells, immunohistochemistry and molecular pathology- to name a few.

Yet, the book remains connected to the very soul of Forensic Medicine, Traumatology and Toxicology by referring back to prior cited texts and thus avoiding repetition and maintaining chronology stimulating the reader and allowing for both horizontal and vertical integration, which is also the essence of Competency Based Medical Education Curriculum.

The text is amply studded with memory aids and some of the handmade diagrams by the Author- one of particular note is memory aid designed for remembering cranial nerves on Page No 18, which makes the anatomical orientation of the various cranial nerves with respect to each other as well as vastly simplifies the topographic anatomy. Not to suffice, the text contains numerous demonstration videos which are a rarity in the existing literature and help the reader in grasping the basic concept e.g. experimental demonstration of the law of Laplace given on page no 51, which helps in conceptual understanding of the abstract terminologies.

General Pathology given in Chapter 4 is a welcome inclusion as it helps in understanding the basic pathologic principles which are the basis for understanding and interpreting Forensic Pathology. A clear differentiation between Septicemia, sepsis and septic shock, based on updated scientific criteria is heartening to see on Page no’s 96 and 97. Another exciting feature of the book is the innumerable case studies which make the topics both entertaining to read and further act as reminders how one particular development has a legal bearing or implication.

Chapter 6 discusses general pharmacological principles which have importance in the field of clinical and forensic toxicology. Questionnaire towards the end of each topic are though provoking e.g. anti-neoplastic drug for homicide brings one to an old case of murder by means of Lomustine, which is a drug employed for brain tumor treatment but the aplastic anemia and multi-organ failure which are the consequence of it’s overdose resemble natural death. This is significant for even clinicians/ emergency physicians who treat a significant number of accidental drug over-dosages to be mindful of the drug history- both prescriptions as well as Over-the-counter (OTC).

The chapter on “Radiology as Applied to Forensic Medicine and Toxicology” is very thoughtfully designed considering the advent of Virtual Autopsy at AIIMS in 2021 by the Government of India after the Virtopsy project under Prof Richard Dirnhofer of the Institute of Forensic Medicine, University of Bern, Switzerland. The radiographs important from the point of view of a forensic practitioner have been given along with comparative diagrammatic representation for

simplification purposes. Readers shall be in a better position to interpret the basic postmortem radiographic findings if and when needed.

National Board of Examinations (NBE) has been asking one question every year in Paper I of Forensic Medicine DNB Theory Examination based upon biostatistics accounting for 10 marks. The inclusion of statistics as applied to Forensic Medicine and Toxicology in Chapter 8 of the book is a welcome step to strengthen the students with the most essential and desired topics e.g. Null Hypothesis, P-value, Z score, etc. which could be asked.

The next chapter on Research Methodology is educative for the thesis going and any researcher to understand the various study designs and how to calculate the sample size for a proposed research study. Types of citations and referencing systems have also been elaborated upon and the various indexing systems have been deliberated upon. This is very much needed for a novice researcher as imprecise understanding of these may create impediments in the growth and advancement of the latter.

The last few chapters focus on infrastructural requirements related to setting up of a Museum and Analytical Toxicological Laboratory in the Department of Forensic Medicine and Toxicology. Basic chemistry has been given at the end to simplify the understanding of subtlety and nuances of Forensic Toxicology. Few sample questions have been provided in the appendix which could further be enhanced through the addition of previous year questions from various universities. Tentative thesis/ research topics given in the appendix give important food for thought to the examinees and the research oriented ones. Overall the book is a novel and fresh initiative in an unexplored genre/ theme which will bode well to the lot to whom it is intended to cover- postgraduates in Forensic Medicine & Toxicology and the faculty.


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