

# BIBLIOGRAPHY

## TECHNICAL SPECIALIST EXAMINATION - DRUG ANALYSIS

Listed below are the references from which examination questions are drawn for the Technical Specialist Examination in Drug Analysis. Works designated as “major works” are the source for a large number of examination questions, while those designated as “minor works” are the source for a smaller but significant number of questions. The list is not all-inclusive, but covers the vast majority of examination content. Small numbers of exam questions may have been drawn from a variety of other sources. Similar information may be obtained by studying later editions of the listed works, as well as other works covering the same topics. Candidates for Technical Specialist Certification should use their own judgment in studying these and other supplemental texts, depending on their degree of familiarity with the various KSA items.

### Major Works Specific to Drug Analysis:

*Clarke's Isolation and Identification of Drugs*, 2nd edition. The Pharmaceutical Press, London, 1986.  
(Thorough discussion of basic drug analysis techniques, both instrumental and non-instrumental, plus information regarding the results of specific exams with specific drugs or classes of drugs.)

Saferstein. *Forensic Science Handbook*, Volumes I & II. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1982 (Vol. 1) and 1988 (Vol. 2). (Overview of drug analysis methodology and schemes, evidence handling, safety issues, etc.)

### Minor Works Specific to Drug Analysis:

*Clarke's Isolation and Identification of Drugs*, 1st edition. The Pharmaceutical Press, London, 1969 (Vol. 1) and 1972 (Vol. 2). (Similar to 2<sup>nd</sup> edition, but also covering some older techniques and drugs)

Drug Enforcement Administration. *Basic Training Program for Drug Chemists*. DEA Office of Science and Technology, U.S. Dept. of Justice. (Comprehensive study plan for drug analysts, including methodology and technique usage)

McLafferty. *Interpretation of Mass Spectra*. University Science Books, Mill Valley, California, 1980.  
(In-depth discussion of mass spectrometry principles, instrument design, search algorithms, etc.)

Morrison and Boyd. *Organic Chemistry*, 3rd, 4th, or 5th Ed. Allyn and Bacon, Inc., Boston, 1973, 1983, 1987. (Organic chemistry principles, including nomenclature, functional groups, etc.)

Mills & Roberson. *Instrumental Data for Drug Analysis*, 2nd Ed. CRC Press, Boca Raton, Florida, 1993. (Comprehensive source for drug spectra.)

## Works Relevant to General Forensic Science Issues

"The Rules of Professional Conduct" supplied by the American Board of Criminalistics.

"ASCLD-LAB Manual" published by the American Society of Crime Laboratory Directors - Laboratory Accreditation Board, 1999 (or most recent update).

DeForest, Gaensslen, & Lee. *Forensic Science: An Introduction to Criminalistics*. New York: McGraw-Hill, Inc., 1983. ISBN 0-07-016267-0 (This book is, in its entirety, a good general text)

For more in depth treatment of various subject areas, supplement the above reading with the list of selections below. The following references are helpful with regard to the recognition and preservation of various types of evidence, and for a general awareness of the other types of examinations that could apply. Give particular attention to those areas with which you are unfamiliar, guided by the content of the KSA list.

*Techniques of Crime Scene Investigation*, 5th Edition, by Fisher B. J. (Boca Raton: CRC Press, 1993) ISBN 0-8493-9506-2. (Especially good for recognition and preservation of evidence).

Chapter 5: "Processing The Crime Scene"

Chapter 6: "Establishing Identity"

Chapter 7: "Trace Evidence and Miscellaneous Material"

Chapter 8: "Blood And Other Biological Evidence"

Chapter 9: "Impression Evidence"

Chapter 10: "Firearms Examinations"

Chapter 12: "Illicit Drugs And Toxicology"

*Criminalistics, An Introduction to Forensic Science*, 3rd Edition, by Saferstein. (Englewood Cliffs, NJ: Prentice Hall, 1987) ISBN 0-13-193269-1

Chapter 9: "Drugs"

*Criminalistics, An Introduction to Forensic Science*, 6<sup>th</sup> Edition, by Saferstein. (Upper Saddle River, NJ: Prentice Hall, 1998) ISBN 0-13-592940-7 (Good overview of the various categories of criminalistics examinations)

Chapter 1: "Introduction"

Chapter 2: "The Crime Scene"

Chapter 5: "Organic Analysis"

Chapter 6: "Inorganic Analysis"

Chapter 7: "The Microscope"

Chapter 10: "Forensic Toxicology"

Chapter 11: "Forensic Aspects of Arson and Explosion Investigations"

Chapter 12: "Forensic Serology"

Chapter 13: "DNA: A New Forensic Science Tool"

Chapter 15: "Firearms, Tool Marks, and Other Impressions"

Chapter 16: "Document and Voice Examination"

*Forensic Science Handbook*, edited by Saferstein. (Englewood Cliffs, NJ: Prentice Hall, 1982) ISBN 0-13-326850-0

Chapter 1: "Legal Aspects of Forensic Science"

Chapter 9: "Foundations of Forensic Microscopy"

*Forensic Science Handbook, Volume II*, edited by Saferstein. (Englewood Cliffs, NJ: Prentice Hall, 1988) ISBN 0-13-326877-2

Chapter 2: "Forensic Capillary Gas Chromatography"

Chapter 3: "Forensic Identification of Controlled Substances"

*Forensic Science Handbook, Volume III*, edited by Saferstein. (Englewood Cliffs, NJ: Regents/Prentice Hall, 1993) ISBN 0-13-325390-2

Chapter 3: "Forensic Applications of Infrared Spectroscopy"

*Practical Instrumental Analysis*, by Krugers and Keulemans, editors. (New York: Elsevier, 1965)

(Any book which gives a general overview of analytical instruments commonly encountered in forensic laboratories will suffice as a supplement to the discussion in Clarke's. What is chosen should give you a basic understanding of typical laboratory instruments and their applications.)

*Polarized Light Microscopy*, by McCrone, W. C.; McCrone, L. B.; and Delly, J. G.;. (Michigan: Ann Arbor Science, 1978). Note: Any good general treatment of microscopy will suffice. What is selected should include parts of the microscope and their function, types of illumination, polarized light microscopy and commonly encountered terms relating to this subject.

No citations have been offered on safety or general laboratory QA/QC. There are a wealth of references available which will offer guidance in these general areas, including your own laboratory's safety and quality manuals.