ANIL AGGRAWAL'S
Internet Journal of Forensic Medicine and Toxicology
The world's first online journal devoted entirely to forensic medicine and toxicology · Published 1 January and 1 July

VOL. 7, NO. 2
Downloaded from www.anilaggrawal.com · ISSN 0972-8074 (Online) · https://www.anilaggrawal.com/ij/vol_007_no_002/reviews/tb/page002b.html

Book Reviews: Technical Books Section

(Page 2 b - Review by Dr. V.V.Pillay, South India)

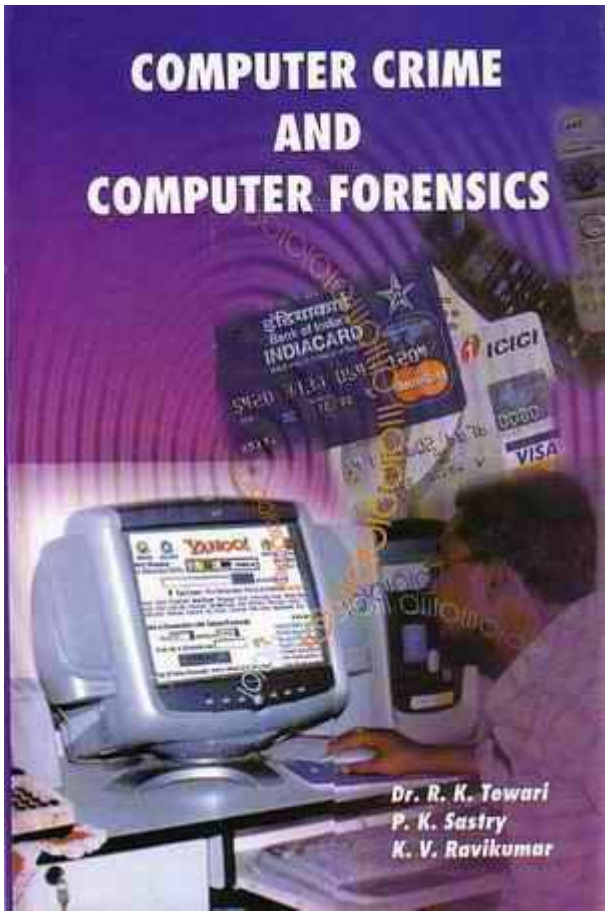


FEATURED BOOK

INVALUABLE

Rating : 9.0
★★★★★★★★★ (9/5)

Computer Crime and Computer Forensics, *by* Dr. R.K. Tewari, P.K. Sastry and K.V.Ravikumar. Hard Bound, 5.5" x 8.5".
Select Publishers, Publishers and Distributors, C-73/B, (Gr. Floor), Pandav Nagar, Patparganj (Near Mother Dairy), Delhi-110092. . . Email: ssbook@rediffmail.com. Publication Date 2002. xvi + 321 pages, ISBN 81-901135-3-4. Price Indian Rupees 595.00, US $30.00



The use of computers is today inextricably woven into the very fabric of educated society, not only in the West, but also in Third World countries such as India. The World Wide Web is a virtual hub of incessant activity that has snared millions of individuals across the globe in its intricate tangles. As a result of the on-going communication revolution coupled with the developments in computer technology, the world has virtually become a global village. Today, information technology is the buzzword, and it seems to be cruising smoothly on the information super-highway, revolutionizing the way we communicate and transact business. We are in the midst of an information revolution that the world has never seen before. Information storage and information access have been greatly simplified, first with the advent of computers, and then with the emergence of computer networking. Information technology is assumed to be the largest contributor to the shift of power in the hands of those possessing information. Therefore, it should not come as a surprise that the Internet has also become a source of nefarious activities. Cyberspace has become an attractive, virtual (and often anonymous) territory for criminals to flourish. This dark side of the Net teems with pornography, deception, stalking, blackmail, extortion, and money laundering. Unfortunately, no effective mechanism has yet been established for handling such crimes, especially relating to searching, seizing, analyzing digital evidence and conviction of computer criminals.

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The authors of the book "Computer Crime and Computer Forensics" examine a variety of crimes that represent the fallout of the information technology boom, with emphasis on forensic analysis of digital evidence. The book also deals with various measures for preventing these crimes, identifying threats of invasion of privacy, and preventing unauthorized access. In a country where postal mail is still preferred over e-mail, it is not surprising that, till recently, the Indian lawmakers did not pay enough attention to the illicit activities on the internet. The laws that govern

commercial transactions were largely developed at a time when telegraphs and typewriters were the commonly used office technologies, and business was conducted with paper-based documents transmitted through the postal system. Advancements in information technology have led to the evolution of a new criminality, which poses a great challenge to the traditional policing system that is restricted to territorial limits. While technologies and business practices have changed dramatically, the associated legal support systems have not kept pace. The problem is compounded by the fact that the Internet does not respect national boundaries. This makes it possible for a criminal to easily remain outside a law enforcement agency's jurisdiction. In spite of some recent legislations that have come into force, for e.g., the Information Technology Act -2000, grey areas still remain.

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Perpetration of crime is of course not a new phenomenon, and crimes are being committed from time immemorial. At various stages in the history of mankind, various laws and codes have been framed to tackle crime, and a myriad punishments have been evolved to punish offenders. Before the advent of computer crimes, law enforcement agencies were bound by some clearly laid out ground rules. There were established procedures for investigation and prosecution of all types of crimes. In the case of traditional crimes, substantial physical evidence is generally available for analysis at the scene of crime. Collection of such physical evidence needed only some common sense and a little technical knowledge. Forensic assistance was provided by laboratory examination procedures that were fully established.

Information technology (IT) provides an opportunity to criminals to commit traditional crimes like cheating, fraud, theft, embezzlement, industrial and political espionage, etc., in a much more sophisticated and foolproof manner. At the same time, it also helps in perpetrating non-traditional IT-specific attacks targeted at the security of critical infrastructures such as telecommunications, banking, or emergency services. Such crimes can be committed through computer networks across national and international borders with relative ease, posing a serious threat to public welfare, morality and the justice delivery system. The application of information technology has also radically changed the mode of criminal investigation. The methods of investigation of traditional crimes are no longer valid in the digital world. Even during the era of industrialization, there was no need to change the prevalent criminal investigation procedures of the agriculture age. But with the advent of information technology, the criminal investigation procedures require radical changes to handle the errant computer user effectively. The society is moving from paper based to paperless scenario, from centralization to decentralization, from controlled access to totally independent access and so on. In such a scenario, it becomes possible for anti-social elements to cause havoc with minimum risk of detection by the existing criminal justice system. Traditional methods of crime detection, evidence collection, and prosecution have become ineffective in combating the new challenges posed by the perpetrators of computer crimes. This era of fast changing technologies will soon derail the criminal justice system and make the whole exercise futile, if appropriate steps are not taken urgently.

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In the last couple of decades, computer crimes have been causing heavy losses to Governments and businesses the world over. These crimes can broadly be classified into two categories - conventional crimes in the computerized environment (such as frauds, or organized crime utilizing computer resources), and high technology cyber crimes (such as hacking). Whatever form it may take, computer crime presents a unique challenge to the law enforcement authorities. Cyber criminals can easily 'cross' international borders unhindered. A person sitting in a remote corner of the world can attack a networked computer system using a telephone line, anytime, anywhere, irrespective of its location and distance.

Unfortunately, there have been very few books so far, which address these issues from an Indian perspective. It is therefore very heartening that Dr. R K Tewari, Mr. P K Sastry and Mr. K V Ravi Kumar have taken the initiative of authoring such a book, which successfully provides a comprehensive coverage of the intricacies of computer forensics. The emerging trends in computer crimes have given birth to this new branch of forensic science: computer forensics. It is a discipline that is still in its infancy, and is drastically different from the other traditional branches of forensic science. There are three sub-branches to this fast developing specialty, viz., computer forensics, cyber forensics, and software forensics. The last mentioned is the newest entrant, and very little work has been done in this area, though serious efforts are being made to evolve procedures and tools that would stand the tests of legal scrutiny. The problems related to investigation of computer crimes with their own operational, legal, and ethical challenges, have been adequately addressed in this book; a particularly attractive feature of the book being the simplicity with which it unravels the complexities of cyber crimes for easy assimilation. The book has been written with the aim of providing fundamental information on computer crimes and computer forensics for the benefit of those majority of individuals who are not well versed with computer technology. There are 11 chapters in the book that cover all the major areas of computer forensics in adequate detail, in a highly readable, easy to understand format.

In this reviewer's opinion, "Computer Crime and Computer Forensics" is a book that should be invaluable for forensic investigators, law enforcement agencies, the judiciary, the legal fraternity, students of criminology and law, as also for government policy makers.



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Dr.V.V.Pillay has been in the vanguard of the movement among medical professionals in India to develop the neglected field of Toxicology. He has published extensively in both the scientific and lay press on matters relating to Toxicology, as well as his chosen discipline - Forensic Medicine. Dr.Pillay has authored 6 books on Forensic Medicine and Toxicology, and has received an award for one of them (Modern Medical Toxicology), generally considered to be a trend setter among books on the subject in India. He has reviewed several books on Toxicology for the Internet Journal of Forensic Medicine and Toxicology. Dr.Pillay received a scroll of honour in appreciation of work done in the field of Toxicology from the Medicolegal Society, All India Institute of Medical Sciences, New Delhi. He has established a state-of-the-art Poison Control Centre, recognized by the World Health Organization at the institute where he is currently employed (AIMS, Cochin). Among his most sought-after publications is a 700 page reference work on Toxicology.

Review 1 by Yogender Bansal , North India

Review 2 by V.V.Pillay, South India

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