



Contents

	Acknowledgments	xv
	Foreword	xvii
	Introduction	xxi
	About the Authors	xxvii
Chapter 1	Security Management Practices	1
	Sample Questions	29
	Bonus Questions	33
	Advanced Sample Questions	35
Chapter 2	Access Control Systems	43
	Rationale	43
	Controls	44
	Identification and Authentication	49
	Some Access Control Issues	65

	Sample Questions	66
	Bonus Questions	71
	Advanced Sample Questions	73
Chapter 3	Telecommunications and Network Security	81
	Our Goals	82
	Domain Definition	83
	Management Concepts	84
	Sample Questions	159
	Bonus Questions	165
	Advanced Sample Questions	167
Chapter 4	Cryptography	175
	Introduction	176
	Cryptographic Technologies	189
	Secret Key Cryptography (Symmetric Key)	194
	Public (Asymmetric) Key Cryptosystems	203
	Approaches to Escrowed Encryption	214
	Internet Security Applications	218
	Sample Questions	227
	Bonus Questions	233
	Advanced Sample Questions	235
Chapter 5	Security Architecture and Models	249
	Security Architecture	249
	Assurance	265
	Information Security Models	272
	Sample Questions	281
	Bonus Questions	287
	Advanced Sample Questions	290
Chapter 6	Operations Security	297
	Our Goals	298
	Domain Definition	298
	Controls and Protections	299
	Monitoring and Auditing	316
	Threats and Vulnerabilities	321
	Sample Questions	325

	Bonus Questions	329
	Advanced Sample Questions	331
Chapter 7	Applications and Systems Development	337
	The Software Life Cycle Development Process	338
	The Software Capability Maturity Model (CMM)	348
	Object-Oriented Systems	350
	Artificial Intelligence Systems	353
	Database Systems	357
	Application Controls	359
	Sample Questions	363
	Bonus Questions	368
	Advanced Sample Questions	370
Chapter 8	Business Continuity Planning and Disaster Recovery Planning	377
	Our Goals	378
	Domain Definition	378
	Business Continuity Planning	378
	Disaster Recovery Planning	387
	Sample Questions	402
	Bonus Questions	405
	Advanced Sample Questions	408
Chapter 9	Law, Investigation, and Ethics	415
	Types of Computer Crime	415
	Law	418
	Investigation	431
	Liability	437
	Ethics	439
	Sample Questions	444
	Bonus Questions	449
	Advanced Sample Questions	451
Chapter 10	Physical Security	459
	Our Goals	460
	Domain Definition	460

Threats to Physical Security	460
Controls for Physical Security	462
Sample Questions	486
Bonus Questions	490
Advanced Sample Questions	492
Appendix A A Process Approach to HIPAA Compliance through a HIPAA-CMM	497
Background	499
HIPAA Security Requirements Mappings to PAs	507
HPAs	508
Defining and Using the HIPAA-CMM	510
Conclusion	512
References	513
Appendix A: HIPAA-CMM PA Overview	514
Appendix B: Glossary (SSE-CMM v2.0)	524
Appendix C: The Ideal Approach to Process Improvement	527
Appendix D: SSE-CMM MAPPINGS and General Considerations	530
Appendix B The NSA InfoSec Assessment Methodology	532
History of the NIPC	533
About the ISSO	533
The InfoSec Assessment Methodology	534
PDD#63	536
Appendix C The Case for Ethical Hacking	543
Rationale	544
Roles and Responsibilities	544
Implementation	546
Summary	548
Appendix D The Common Criteria	549
Common Criteria: Launching the International Standard	549
Glossary	558
For More Information	559
Appendix E BS7799	561

Appendix F HIPAA Updates	563
Scope	563
Title II Administrative Simplification	564
Conclusion	570
Appendix G References for Further Study	571
Web Sites	573
Appendix H Answers to Sample and Bonus Questions	575
Chapter 1—Security Management Practices	575
Chapter 2—Access Control Systems and Methodology	583
Chapter 3—Telecommunications and Network Security	594
Chapter 4—Cryptography	605
Chapter 5—Security Architecture and Models	617
Chapter 6: Operations Security	629
Chapter 7—Applications and Systems Development	638
Chapter 8—Business Continuity Planning—Disaster Recovery Planning	647
Chapter 9—Law, Investigation, and Ethics	655
Chapter 10—Physical Security	664
Appendix I Answers to Advanced Sample Questions	673
Chapter 1—Security Management Practices	673
Chapter 2—Access Control Systems and Methodology	694
Chapter 3—Telecommunications and Network Security	713
Chapter 4—Cryptography	736
Chapter 5—Security Architecture and Models	767
Chapter 6—Operations Security	786
Chapter 7—Applications and Systems Development	809
Chapter 8—Business Continuity Planning—Disaster Recovery Planning	826
Chapter 9—Law, Investigation, and Ethics	845
Chapter 10—Physical Security	864
Notes	877
Appendix J What’s on the CD-ROM	878
Glossary of Terms and Acronyms	881
Index	929