

Concepts & Applications of Network Security

ABOUT THE BOOK

Unit-1 Introduction & Number Theory covers Services, Mechanisms and attacks-the OSI security architecture-Network security model-Classical Encryption techniques (Symmetric cipher model, substitution techniques, transposition techniques, steganography), FINITE FIELDS AND NUMBER THEORY: Groups, Rings, Fields-Modular arithmetic-Euclid's algorithm-Finite fields-Polynomial Arithmetic-Prime numbers-Fermat's and Euler's theorem-Testing for primality-The Chinese remainder theorem-Discrete logarithms.

Unit-2 Block Ciphers & Public Key Cryptography covers Data Encryption Standard-Block cipher principles-block cipher modes of operation-Advanced Encryption Standard (AES)-Triple DES-Blowfish-RCS algorithm. Public key cryptography: The Principles of public key cryptosystems-The RSA algorithm-Key management-Diffie Hellman Key exchange-Elliptic curve arithmetic-Elliptic curve cryptography.

Unit-3 Hash Functions and Digital Signatures covers Authentication requirement-Authentication function-MAC-Hash function-Security of hash function and MAC-MD5-SHA-HMAC-CMAC-Digital signature and authentication protocols-DSS-El Gamal-Schnorr.

Unit-4 Security Practice & System Security covers Authentication applications-Kerberos-X.509 Authentication services-Internet Firewalls for Trusted Systems: Roles of Firewalls-Firewall related terminology-Types of Firewalls-Firewall design-SET for E-Commerce Transactions, Intruder-Intrusion detection system-Virus threats-Trusted systems-Countermeasures-Firewalls design-Practical implementation of cryptography and security.


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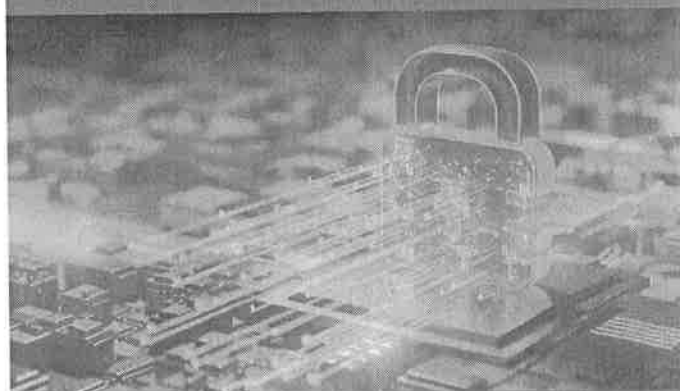
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