

TABLE OF CONTENTS

Chapter No.	Title	Page No.
1	Introduction to Cyber Security	1-29
	1.1 Definition and Importance 1.2 History and Evolution 1.3 Types of Cyber Crimes 1.4 Security Goals (CIA Triad) 1.5 Cyber Security Domains	
2	Networking Fundamentals	30-57
	2.1 Network Models (OSI, TCP/IP) 2.2 IP Addressing and Subnetting 2.3 Protocols and Ports 2.4 Firewalls and Routers 2.5 Virtual Private Networks (VPNs) 2.6 Network Monitoring Tools	
3	Cryptography and Data Security	58-82
	3.1 Encryption and Decryption 3.2 Symmetric vs Asymmetric Cryptography 3.3 Digital Signatures and Certificates 3.4 Hashing Techniques 3.5 Public Key Infrastructure (PKI) 3.6 Applications of Cryptography	
4	Cyber Threats and Attack Vectors	83-104
	4.1 Malware (Viruses, Worms, Trojans) 4.2 Phishing and Social Engineering 4.3 Denial of Service (DoS/DDoS) 4.4 Man-in-the-Middle Attacks 4.5 Zero-Day Exploits 4.6 Advanced Persistent Threats (APTs)	
5	System and Network Security	105-132
	5.1 Intrusion Detection and Prevention Systems 5.2 Security Information and Event Management (SIEM) 5.3 Patch Management 5.4 Endpoint Security 5.5 Access Control Models 5.6 Security Hardening	

6	Web and Application Security	133-152
	6.1 Secure Software Development Life Cycle (SDLC) 6.2 OWASP Top 10 Vulnerabilities 6.3 SQL Injection and XSS 6.4 Authentication and Authorization 6.5 Web Application Firewalls 6.6 API Security	
7	Cloud and IoT Security	153-175
	7.1 Cloud Computing Security Challenges 7.2 Identity and Access Management (IAM) 7.3 Data Protection in Cloud 7.4 IoT Vulnerabilities 7.5 Secure IoT Architectures 7.6 Case Studies in Cloud/IoT Security	
8	Incident Response and Digital Forensics	176-192
	8.1 Incident Response Process 8.2 Evidence Collection and Preservation 8.3 Forensic Tools and Techniques 8.4 Chain of Custody 8.5 Malware Forensics 8.6 Case Studies in Incident Response	
9	Cyber Laws, Policies and Risk Management	193-211
	9.1 International Cyber Laws 9.2 Indian IT Act and Amendments 9.3 Standards (ISO, NIST, GDPR) 9.4 Risk Assessment Frameworks 9.5 Business Continuity Planning 9.6 Disaster Recovery Planning	
10	Emerging Trends and Future Directions	212-231
	10.1 Artificial Intelligence in Cyber Security 10.2 Blockchain Security 10.3 Quantum Cryptography 10.4 Zero Trust Architecture 10.5 Cyber Security in 5G Networks 10.6 Future Challenges and Opportunities	