

**Unit I****Introduction**

Security Trends, OSI security architecture, Security attacks, security services, security mechanisms, Security System Development Life cycle – Legal, Ethical and Professional issues.

**Unit II****Security Analysis and Logical Design**

Risk Management - Identifying and Assessing Risk - Assessing and Controlling Risk. Blueprint for Security - Information Security Policy - Standards and Practices – ISO 17799/BS 7799 – NIST Models - VISA International Security Model - Design of Security Architecture

**Unit III****Physical Design**

Security Technology – Intruders, Malicious software, Firewalls, Scanning and Analysis tools, Content filters.

**Unit IV****Cryptography**

Advanced Encryption standard, Principles of public-key cryptosystem, Key management, Message authentication and Hash functions, Digital signatures

**Unit V****Biometric Security**

Biometrics: Definition-Types of Biometrics- Multi biometrics-Fusion methods-applications

**Practical**

1. Malware and their removal, Types of attacks and their detection, Cryptography algorithms, Web security, E-mail security, Firewall, Port blocking, VPN.
2. Write program for Mono alphabetic cipher
3. Implementation of Vigenere cipher (Polyalphabetic substitution)
4. Implementation of Hill cipher
5. Implementation of Rail Fence cipher
6. Implementation of S-DES algorithm for data encryption
7. Implement RSA asymmetric (public key and private key)-Encryption. Encryption key (e, n) & (d, n)
8. Generate digital signature using Hash code
9. Generate digital signature using MAC code

**Reference Books**

1. Cryptography and Network Principles and Practice by Wiliam Stallings, Pearson Edu. 2003
2. Web Commerce Technology Handbook by Daniel Minoli and Emma Minoli, TMH (1999)
3. E-commerce: Business, Technology, Society by Pearson Edu. Asia
4. E-Commerce : A managerial Perspective by Samantha Shurety P
5. Michael E Whitman and Herbert J Mattord, Principles of Information Security, Vikas Publishing House, New Delhi, 2003.
6. William Stallings, Cryptography and Network security, Principles and Practices, Fourth Edition, Pearson Education, 2006
7. John D. Wood Ward, Jr. Nicholas M. Orlans and Peter T. Higgm, Biometrics, Dream tech press, 2003.