| Information Security and Audit | L | T | P | Networking |
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| | 3 | 0 | 2 | |

**Course Objective:** To understand the risk assessment while handling and processing information and implementing security in audit. To discovery knowledge in collecting data about organization. To do various analysis on Information Risk Assessment.To understand IT audit and its activities.

| S. NO | Course Outcomes (CO) |
|---|---|
| CO1 | Understand risk assessment in information handling and processing. |
| CO2 | Implement security in auditing. |
| CO3 | Acquire knowledge in data collection about organizations. |
| CO4 | Perform various analyses on information risk assessment. Comprehend IT auditing and its activities. |

| S. NO | Contents | Contact |
|---|---|---|
| UNIT 1 | Conventional Encryption Principles & Algorithms (DES, AFS, RC4, Blowfish), Block Cipher Modes of Operation, Location of Encryption Devices. Key Distribution. Public key cryptography principles, public key cryptography algorithms (RSA, Diffie-Hellman, ECC), public Key Distribution. | 8 |
| UNIT 2 | Secure Hash Functions (SHA-512, MDS) and HMAC, Digital Signatures, Kerberos, X.509 Directory Authentication Service, Email Security: Pretty Good Privacy (PGP) IP Security: Overview, IP Security Architecture, Authentication Header, Encapsulating Security Payload, Combining SecurityAssociations and Key Management. | 9 |
| UNIT 3 | Requirements, Secure Socket Layer (SSL) and Transport Layer Security (TLS), Secure Electronic Transaction (SET). Firewalls: Firewall Design principles, Trusted Systems, Intrusion Detection Systems. | 9 |

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| **UNIT 4** | Introduction, Basic Terms Related to Audits, Security audits, The Need for Security Audits in Organization, Organizational Roles and Responsibilities for Security Audit, Auditors Responsibility in Security Audits, Types Of Security Audits. | **8** |
| **UNIT 5** | Approaches to Audits, Technology Based Audits Vulnerability Scanning And Penetration Testing, Resistance to Security Audits, Phase in security audit, Security audit Engagement Costs and other aspects, Budgeting for security audits, Selecting external Security Consultants. Key Success factors for security audits. | **8** |
| | **TOTAL** | **42** |