

Isolation, Performance Statistics; Event Correlation Techniques – Rule-Based Reasoning, Model-Based Reasoning, Case-Based Reasoning, Codebook correlation Model, State Transition Graph Model, Finite State Machine Model, Security Management – Policies and Procedures, Security Breaches and the Resources Needed to Prevent Them, Firewalls, Cryptography, Authentication and Authorization, Client/Server Authentication Systems, Messages Transfer Security, Protection of Networks from Virus Attacks, Accounting Management, Report Management, Policy-Based Management, Service Level Management.

**Text Books:**

1. Mani Subramanian: Network Management- Principles and Practice, 2<sup>nd</sup> Edition, Pearson Education, 2010.

**Reference Books:**

1. J. Richard Burke: Network management Concepts and Practices: a Hands-On Approach, PHI, 2008.

**INFORMATION AND NETWORK SECURITY**

**Subject Code: 10CS835**

**Hours/Week : 04**

**Total Hours : 52**

**I.A. Marks : 25**

**Exam Hours: 03**

**Exam Marks: 100**

**PART – A**

**UNIT 1**

**6 Hours**

**Planning for Security:** Introduction; Information Security Policy, Standards, and Practices; The Information Security Blue Print; Contingency plan and a model for contingency plan

**UNIT 2**

**6 Hours**

**Security Technology-1:** Introduction; Physical design; Firewalls; Protecting Remote Connections

**UNIT 3**

**6 Hours**

**Security Technology – 2:** Introduction; Intrusion Detection Systems (IDS); Honey Pots, Honey Nets, and Padded cell systems; Scanning and Analysis Tools


**UNIT 4**

**8 Hours**

**Cryptography:** Introduction; A short History of Cryptography; Principles of Cryptography; Cryptography Tools; Attacks on Cryptosystems.

**PART - B**

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**UNIT 5** **8 Hours**  
**Introduction to Network Security, Authentication Applications:** Attacks, services, and Mechanisms; Security Attacks; Security Services; A model for Internetwork Security; Internet Standards and RFCs Kerberos, X.509 Directory Authentication Service.

**UNIT 6** **6 Hours**  
**Electronic Mail Security:** Pretty Good Privacy (PGP); S/MIME

**UNIT 7** **6 Hours**  
**IP Security:** IP Security Overview; IP Security Architecture; Authentication Header; Encapsulating Security Payload; Combining Security Associations; Key Management.

**UNIT 8** **6 Hours**  
**Web Security:** Web security requirements; Secure Socket layer (SSL) and Transport layer Security (TLS); Secure Electronic Transaction (SET)

**Text Books:**

1. Michael E. Whitman and Herbert J. Mattord: Principles of Information Security, 2<sup>nd</sup> Edition, Cengage Learning, 2005. (Chapters 5, 6, 7, 8; Exclude the topics not mentioned in the syllabus)
2. William Stallings: Network Security Essentials: Applications and Standards, 3<sup>rd</sup> Edition, Pearson Education, 2007. (Chapters: 1, 4, 5, 6, 7, 8)

**Reference Book:**

1. Behrouz A. Forouzan: Cryptography and Network Security, Special Indian Edition, Tata McGraw-Hill, 2007.

**MICROCONTROLLER-BASED SYSTEMS**


**Subject Code: 10CS836**  
**Hours/Week : 04**  
**Total Hours : 52**

**I.A. Marks : 25**  
**Exam Hours: 03**  
**Exam Marks: 100**

**PART – A**

**UNIT 1** **7 Hours**  
**Introduction, 8051 Assembly Language Programming – 1:** Microcontrollers and embedded processors; Overview of the 8051 family 8051 Assembly Language Programming (ALP) -1: Inside the 8051; Introduction to 8051 ALP; Assembling and running an 8051 program; The

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