

Performance Management – Performance Metrics, Data Monitoring, Problem 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, 2nd 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: 10IS835
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.

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PART - B

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, 2nd 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, 3rd 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: 10IS836
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;

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