KTU BTECH S5 SYLLABUS

ITT395 SECURITY IN COMPUTING

SYLLABUS

Module 1:

Introduction: Security Problem in Computing, Elementary Cryptography- Terminology and Background, Introduction - Substitution Ciphers, Transposition Ciphers, Encryption Algorithms, DES, AES, Public Key Encryption, Uses of Encryption...

Module 2:

Secure Programs, Nonmalicious Program Errors, Viruses and other Malicious Code, Targeted Malicious Code, Controls against Program Threats

Module 3:

Protected Objects and Methods of Protection, Memory Address Protection, Control of Access

to General Objects, File Protection Mechanisms, User Authentication, Designing Trusted Operating Systems- Security Policies, Models of Security, Trusted Operating System Design,

Assurance in Trusted OS...

Module 4:

Introduction to Databases, Security Requirements, Reliability and Integrity, Sensitive Data, Inference, Multilevel Databases, Proposals for Multilevel Security, Data Mining..

Module 5:

Security in Networks- Threats in Networks, Network Security Controls, Secure Electronic Transactions, Firewalls, Intrusion Detection Systems....

Text Books

1. Charles P. Pfleeger, Shari Lawrence Pfleeger and Deven N. Shah, Security in Computing, 4th Edition.

2. William Stallings, Cryptography and Network Security Principles and Practice, Pearson Education, 4th Edition....

Reference Books

11. William Stallings, Network Security Essentials, Applications and Standards, Pearson Education.

2. Michael E. Whitman and Herbert J Mattord, Principles of Information Security, 4th Edition..