

Teaching Plan

Paper: Information Security (CS-702)

Course: B. Tech Computer Science Semester - VII

Teacher: Dr. Karan Gupta

Week	Start Date	Topics to be Covered
Week 1	25-Jul-16	Introduction: History, Critical Characteristics, Components, Approaches of Implementation.
Week 2	1-Aug-16	Introduction: Security Systems Development Life Cycle, Security Professionals.
Week 3	8-Aug-16	Security Issues: Need for Security, Threat, Risk
Week 4	15-Aug-16	Security Issues: Attack, Legal and Ethical issues. Problems & Discussions
Week 5	22-Aug-16	Error Detection / Correction: Block Codes, Generator Matrix, Parity Check Matrix, Minimum distance of a Code.
Week 6	29-Aug-16	Error Detection / Correction: Error detection and correction, Standard Array and syndrome decoding. Hamming Codes.
Week 7	5-Sep-16	Cryptography: Modular Arithmetic, Congruence. Problems & Discussions
Week 8	12-Sep-16	Cryptography: Plain text, Cipher Text, Key, Encryption, Decryption, Kerckhoff's Principle. Substitution Ciphers, Transposition Ciphers.
Week 9	19-Sep-16	Cryptography: Types of Attacks on Ciphers. Cryptanalysis of Substitution Ciphers, Transposition Ciphers. Block Cipher, Stream Cipher, Data Encryption Standard.
Week 10	26-Sep-16	Revisions & Tests
Week 11	3-Oct-16	Cryptography: Diffie- Hellma key exchange algorithm, Rabin Cipher
Week 12	10-Oct-16	MID-SEMESTER BREAK
Week 13	17-Oct-16	Cryptography: Public Key Infrastructure, Digital Signature, E-mail Security.
Week 14	24-Oct-16	Revisions & Tests
Week 15	31-Oct-16	Security tools: Intrusion detection systems, Honey pots, Honey nets and padded cell systems, scanning and analysis tools.
Week 16	7-Nov-16	Revisions & Tests