MCA 505 B Information Security and Management

Module-I (10 Hours)
The Security Problem in Computing:The meaning of computer Security, Computer Criminals, Methods of Defense; Elementary Cryptography: Substitution Ciphers, Transpositions, Making "Good" Encryption Algorithms, Private-Key Cryptosystems, The Data Encryption Standard, The AES Encryption Algorithm, Public-Key Cryptosystems, Public Key Encryptions, Usesof Encryption, Pseudo-randomness, and Hashing.

Module-II (10 hours)
Program Security :Secure Programs, Non-malicious Program Errors, viruses and other malicious code, Targeted Malicious code, controls Against Program Threats,Protection in General-Purposeoperating system protected objects and methods of protection memoryand address protection, File protection Mechanisms, User Authentication Designing Trusted O.S : Security polices, models of security, trusted O.S. design, Assurance in trusted OS,Implementation examples. Digital Signatures, Authentication, Secret Sharing, Grouporiented cryptography, Identification.

Module-III (10 hours)
Data base & Network Security: Security requirements, Reliability and integrity, Sensitive data, Inference, multilevel database, proposals for multilevel security; Security in Network; Threats in Network, Network Security Controls, Firewalls, Intrusion Detection Systems, Secure E-mail.

Module-IV (10 Hours)
Administering Security: Security Planning, Risk Analysis, Organizational Security policies
Physical Security; The Economics of Cyber security; Privacy in Computing; Legal and Ethical Issues in Computer Security: Protecting Programs and data, Information and the law, Rights of Employees and Employers, Software failures, Computer Crime, Case studies of Ethics.

Module-V (Portion covered can be tested through internal evaluation not to be included in the university examination)

Textbooks:
1.Charles P. Pfleeger& Shari Lawrence Pfleeger, "Security in Computing", Fourth
Edition, 2007, Pearson Education, Inc. New Delhi. Pvt. Ltd., New Delhi.
2.William Stallings&Lawrie Brown, "Computer Security: Principles and Practice", First Edition, 2008, Pearson Education, Inc. New Delhi.

Reference Books
1.Charlie Kaufman, Radia Perlman& Mike Speciner, "Network Security: Private Communication in a Public World", 2ndEdition, 2003, PHI Learning. New Delhi.
2.ChuckEasttom, "Computer Security Fundamentals", First Edition, 2006, Pearson
Education, Inc. New Delhi.
3Alfred Baasta, "Computer Security", First edition, 2008, CENGAGE Learning.