GUJARAT UNIVERSITY

K. S. SCHOOL OF BUSINESS MANAGEMENT
[Five Years' (Full-time) Integrated Degree Course]

Semester-8 [M.Sc. (CA & IT)]

Subject Code: - KS_C_CC-481
Subject Name: - Information Security
Course Credit: - 3

Objective:

This course focuses on the fundamentals of information security that are used in protecting both the information present in computer storage as well as information traveling over computer networks. Depth understanding of information security policy and planning. Depth understating of security of hardware, software, database, network and web application.

Unit No.	Course Content	Weight-age (%)
1	**Introduction to information security** • Introduction, History of Information Security, What is Security? , CNSS Security Model, Components of Information System. • Information Systems Security: Distributed Systems Security, Distributed Computing Environment, System Vulnerability and Abuse, Management framework of security and control, E-Commerce Security.	**(20%)**
2	**Organizational Policies & Security Infrastructure** • Organizational Policies: Security Policies, Standards and Guidelines, Information Policy, Security Policy, Physical Security, Social Engineering, Security Procedures, Building a Security Plan, Implementing a Security Policy. • Security Infrastructure: Infrastructure Components, Goals of Security Infrastructure, • Design Guidelines, Security Models.	**(20%)**

3	**Security Planning and Database Security** • Information security planning and governance, information security policy, standards and practices, the information security blueprint, Intrusion Detection and prevention system. • Introduction to Databases, Characteristics of database approach, database security issues, database security, vendor-specific security, database backup and recovery, database warehouse control and security	**(20%)**
4	**Network, Hardware & Software Security** • Fundamental Concepts, Identification and Authentication, Access Control, Network security model, malicious software, Firewalls, Network Tools. • Hardware Security, Smart card, Biometrics, VPNs, Operating Systems, Kerberos, Public Key Infrastructure, security protocols • Software Security.	**(20%)**
5	**Web Application, Security & Defense** • Web Application (In)Security: Evolution of Web Applications, Web Application Security, Key Problem factors, The new Security Parameter, The Future if Web Application Security. • Web Security: Client-Server Architecture, Security considerations and threats, Web traffic approaches, SSL/TLS for secure web services, secure-HTTP (S-HTTP), Secure Electronic Transaction (SET). • Core Defense Mechanism: Handling User Access, Handling User Input, Handling Attackers, Managing the Application.	**(20%)**

Recommended Lecture Scheme: Approximately 40 to 45 Lectures

Assignment: Three Assignments should be given

Main Reference books:

1. Network Security and Management
   by Brijendra Singh, 3rd Edition, PHI Publication.
2. Principals of Information Security by Michael E. Whitman and Herbert J. Mattord, 4th Edition, Cengage Learning
3. The Web Application Hackers Handbook - Finding & Exploiting Security Flaws, 2nd Edition, by Dafydd Stuttard & Marcus Pinto, Wiley India Pvt. Ltd.