

<b>Devi Ahilya University, Indore, India Institute of Engineering &amp; Technology</b>				<b>ME II Year Information Technology (Sp. Information Security) Semester- B</b>			
<b>Subject Code &amp; Name</b>	<b>Instructions Hours per Week</b>			<b>Credits</b>			
<b>ISR2C1: Information Security Management</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>
<b>Duration of Theory Paper: 3 Hours</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>5</b>

**Course Objective:**

To study the methods of managing information systems in a secure way.

**COURSE CONTENT**

**Unit I : Foundation**

Computer Security, Threats to security, History of Computer security, Computer System Security and Access Controls (System access and data access). Threats - Viruses ,worms , Trojan horse, bombs, trap doors, spoofs, email virus, macro viruses, remedies, Intruders, Malicious software.

**Unit II : Communication Security**

Encryption, Public Key Infrastructure, Digital Signatures, Digital signatures.

**Unit III : User Authentic Mechanisms**

Passwords, Authentication tokens, Certificate based Authentication, Single Sign on (SSO), Kerberos, X.509, Cryptographic Solutions- A case study.

**Unit IV : Information Security Protocols**

Secure Socket Layer (SSL), Secure Hyper Text Transfer Protocol (SHTTP), Secure Electronic Transaction (SET), Electronic Money, Email Security.

**Unit V : System and Application Security**

Intrusion detection techniques, techniques to provide privacy in Internet Application and protecting digital contents(music, vedio, software) from unintended use, authentication. IP security, Web security. file System security, program and security, memory security, Sandboxing. Security threads protection intruders- Viruses-trusted system. Firewalls, vulnerabilities & threats, Network Denial of service attack, Contract Signing, Secret Splitting.

**Text and Reference books:**

- [1] Dieter Gollman; Computer Security; John Wiley & Sons 1999
- [2] Mathew Bishop; Computer Security; Art and Science; Addison-Wisley Oct. 2007
- [3] Mathew Bishop; Introduction to computer Security; Addison-Wisley Oct 2004
- [4] Kaufman, Perlman and Speciner; "Network security"; Pearson Education 1995.
- [5] Atul Kahate; "Cryptography and Network Security"; Tata McGraw-Hill.