

Devi Ahilya University, Indore, India Institute of Engineering & Technology				ME II Year Information Technology (Sp. Information Security) Semester- B			
Subject Code & Name	Instructions Hours per Week			Credits			
ISR2C3: Secure Wireless Networks	L	T	P	L	T	P	Total
Duration of Theory Paper: 3 Hours	3	1	2	3	1	1	5

Course Objective:

- Provide students with enhance base of knowledge of wireless networking.
- Learn Security Issues in different wireless networks and mitigation techniques
- Develop a comprehensive knowledge of Tools and Techniques used in Management of wireless Networks
- Develop ability to carry out research in area of security in wireless Networks

COURSE CONTENT

Unit I : Foundation

Review of wireless communication Technologies : Cellular Networks, Wireless LAN, Personal Area Networks, Adhoc and Sensor Networks, Challenges in Adhoc and Sensor networks: Constrained Resources, Security, Mobility

Unit II :

Adaptability in Mobile computing, Mobility Management: Location Management Principles and Techniques, Data Dissemination and Management.

Unit III : Mobile and Wireless Security Issues, Approaches to security, Security in Wireless Personal Area Networks: Bluetooth Security Modes, Bluetooth Security Mechanisms, Authentication and Encryption in Bluetooth networks.

Unit IV :

Security in Wireless Local Area Networks: WEP, WPA, IEEE802.11i, Security in Metropolitan Area Networks: IEEE 802.16 and Security.

Unit V :

Security in Wide Area Networks: GSM Security, Four Generations of Wireless: 1G-4G, limitations and Security. Security in Ad hoc and Sensor networks.

Text and Reference books:

- [1] Fundamentals of Mobile and Pervasive Computing, Frank Adelstein, S.K. Gupta, G. Richard
- [2] III, L. Schwiebert, Mc Graw Hill, Ed.2005.
- [3] Hacking Exposed : Mobile Secrets & Solutions, N.Bergman, M.Stanfield, J.Rose, J. Scambray.
- [4] Building Secure Wireless Networks with 802.11, Jahanzeb Khan and Anis Khwaja, Wiley 2003.
- [5] Ad Hoc Wireless Networks - Architectures and Protocols, C.Siva Ram Murthy and B.S.Manoj., Prentice Hall, 2004
- [6] Technical Papers.