MANGALORE UNIVERSITY
DEPARTMENT OF COMPUTER SCIENCE

CSS 455: MOBILE & WIRELESS COMMUNICATION		
Hours/Week: 4 **Credits : 4**		**I.A. Marks: 30** **Exams. Marks: 70**

Course Outcomes:

CO1: Explain the basic concepts of wireless network and wireless generations.
CO2: Demonstrate the different wireless technologies such as CDMA, GSM, GPRS etc.
CO3: Appraise the importance of Ad-hoc networks such as MANET and VANET and Wireless Sensor networks
CO4: Describe and judge the emerging wireless technologies standards such as WLL, WLAN, WPAN, WMAN.
CO5: Explain the design considerations for deploying the wireless network infrastructure.
CO6: Differentiate and support the security measures, standards. Services and layer wise security considerations

	UNIT-I	12 Hrs.

Introduction to Personal Communications Services (PCS): PCS Architecture, Mobility management, Networks signaling. Global System for Mobile Communication (GSM) system overview: GSM Architecture, Mobility management, Network signaling.

	UNIT-II	12 Hrs.

General Packet Radio Services (GPRS): GPRS Architecture, GPRS Network Nodes. **Mobile Data Communication**: WLANs (Wireless LANs) IEEE 802.11 standard, Mobile IP.

	UNIT-III	12 Hrs.

Wireless Application Protocol (WAP): The Mobile Internet standard, WAP Gateway and Protocols, wireless mark up Languages (WML). **Third Generation (3G) Mobile Services**: Introduction to International Mobile Telecommunications 2000 (IMT 2000) vision, Wideband Code Division Multiple Access (W-CDMA), and CDMA 2000, Quality of services in 3G.

UNIT-IV	12 Hrs.

Wireless Local Loop (WLL): Introduction to WLL Architecture, wireless Local Loop Technologies. **Global Mobile Satellite Systems**; Case studies of the IRIDIUM and GLOBALSTAR systems. **Wireless Enterprise Networks**: Introduction to Virtual Networks, Blue tooth technology, Blue tooth Protocols. PAN, HAN, WPAN.

REFERENCE BOOKS

1. Yi-Bing Lin & Imrich Chlamtac,,Wireless and Mobile Networks Architectures, John Wiley & Sons, 2001.

2. Raj Pandya, Mobile and Personal Communication systems and services, Prentice Hall of India, 2001.

3. C Y Lee, Mobile Cellular Telecommunications; 2nd ed.; William, McGraw Hill

4. Kamilo Feher, Wireless and Digital Communications, Prentice-Hall, 1995.

5. Mark Ciampa,, Guide to Designing and Implementing wireless LANs, Thomson learning, Vikas Publishing House, 2001.

6. Ray Rischpater, Wireless Web Development, Springer Publishing, 2000.

7. Sandeep Singhal, "The Wireless Application Protocol", Pearson Education Asia, 2000.