

# PRINCIPLES OF MOBILE COMPUTING

## **Module – I:**

**(10 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.

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

## **Module – II:**

**(14 Hrs)**

Wireless Application Protocol (WAP): The Mobile Internet standard, WAP Gateway and Protocols, wireless mark up Languages (WML), Wireless Local Loop (WLL) : Introduction to WLL Architecture, wireless Local Loop Technologies.

Third Generation (3G) Mobile Services: Introduction to International Mobile Telecommunications 2000 (IMT 2000) Vision, Wideband Code Division Multiple Access (W-CDMA), and CDMA 2000

## **Module – III:**

**(12 Hrs)**

Global Mobile Satellite Systems ; case studies of the IRIDIUM, ICO and GLOBALSTAR systems. Wireless Enterprise Networks : Introduction to Virtual Networks, Blue tooth technology, Blue tooth Protocols.

Server-side programming in Java, Pervasive web application architecture, Device independent example application.

### **Text Books:**

1. Mobile Communication: J. Schiller, Pearson Education
2. Mobile Computing: P.K. Patra, S.K. Dash, Scitech Publications.
3. Mobile Computing: Talukder, TMH, 2<sup>nd</sup> Edition.

### **Reference Books:**

1. Pervasive Computing: Burkhardt, Pearson Education.
2. Principles of Mobile Computing: Hansmann, Merk, Springer, 2<sup>nd</sup> Edition.
3. Wireless Communication & Networking: Garg, Elsevier
4. Third Generation Mobile Telecommunication Systems: P. Stavronlakis, Springer.
5. The Wireless Application Protocol: Sandeep Singhal, Pearson Education.