

PIT7J004

MOBILE COMPUTING

3-0-0

Module - I

(10 Hours)

Introduction to Personal Communications Services (PCS): PCS Architecture, mobility management, Networks signalling, Global System for Mobile Communication (GSM) System overview: GSM Architecture, Mobility management, Network signalling. General Packet Radio Services (GPRS): GPRS Architecture, GPRS Network Nodes, Mobile Data Communication; WLANs (Wireless LANs) IEEE 802.11 standard, Mobile IP.

Module - II

(12 Hours)

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

(10 Hours)

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.

Module - IV

(08 Hours)

Mobile Device Operating System, Commercial mobile operating systems, Software development kit, iOS, Android, Windows phones, M-Commerce, Mobile transaction system, related security issues, 4G technology, fundamental concepts of mobile cloud computing and different application instances.

Text Books:

1. P.K. Patra, S.K. Dash: Mobile Computing, Scitech Publications.
2. Rajkamal: Mobile Computing, Oxford University Press.
3. J. Schiller: Mobile Communication, Pearson Education

Reference Books:

1. Burkhardt: Pervasive Computing, Pearson Education.
2. Hansmann, Merk: Principles of Mobile Computing, 2nd Edition, Springer.
3. P. Stavronlakis: Third Generation Mobile Telecommunication Systems, Springer.
4. Sandeep Singhal: The Wireless Application Protocol, Pearson Education.