UBIQUITOUS COMPUTING (3-0-0)

Module - I (12 hours)

Introduction: Three Tier Architecture Mobile Computing Architecture, Evolution of Wireless Technology

Cellular System: Cell, Cluster, Cell Splitting, Frequency Reuse, Channel Assignment Strategies, Components of Cellular System, Operation of Cellular System

Personal Communications Services (PCS): PCS Architecture, mobility management.

Global System for Mobile Communication (GSM): Overview, Architecture, Network signaling, Channels, Mobility Management.

General Packet Radio Services (GPRS): Architecture, GPRS Interfaces, Network Protocols

Module - II (12 hours)

Wireless LAN (WLAN): Application, Requirement, IEEE 802.11(Ad-hoc Mode, Infrastructure Mode, Protocol Architecture), Bluetooth (Piconet, Scatternet, Protocol Stack, Bluetooth Profile)

Wireless Application Protocol (WAP): WAP Gateway and Protocols, wireless mark up Languages (WML),

Wireless Local Loop (WLL): WLL Configuration, Architecture, WLL Technologies.

IMT 2000: Vision, IMT-2000 Family, W-CDMA and CDMA 2000

Module - III (12 hours)

Satellite System: Introduction, Types of Satellite System (HEO, MEO, LEO), Satellite System Architecture, Case Studies: IRIDIUM, GLOBALSTAR and ICO

Virtual Private Network (VPN): Features, Goals, Working, Remote Access VPN, Site to Site VPN, VPN Protocols, Requirements

Mobile IP & Cellular IP: Goals & Working

Mobile OS: Windows CE, Windows Mobile OS, Symbian OS

Text Books
1. Mobile Computing- A.Talukdar(TMH)
2. Mobile Computing- P.K.Patra, S.K.Dash (SCITECH Publication)
3. Principle of Mobile Computing – Hansman (Springer)

Reference Books
1) Mobile Communication- Schiller (Pearson)
2) Mobile Computing – Raj Kamal (Oxford)
3) Wireless Communication – Rappaport (PHI)