IT- 702 – Wireless & Mobile Computing

Unit I: Antenna , variation pattern, antenna types, antenna gain, propagation modes, types of fading. Model for wireless digital communication, multiple access technique-SDMA, TDMA, FDMA, CDMA, DAMA, PRMA, MAC/CA, Cellular network organization, operations of cellular system, mobile radio propogation effects, , handoff, power control, sectorization, traffic engineering, Infinite sources, lost calls cleared, grade of service, poison arrival process

Unit II: GSM- Services, system architecture, radio interface, logical channels, protocols, localization and calling, handover, security, HSCSD, GPRS-architecture, Interfaces, Channels, mobility management DECT, TETRA, UMTS.

Unit III: IEEE 802.11: LAN-architecture, 802.11 a, b and g, protocol architecture, physical layer, MAC layer , MAC management, HIPERLAN-protocol architecture, physical layer, access control sub layer, MAC sub layer. Bluetooth-user scenarios- physical layer, MAC layer.

Unit IV: Mobile IP, DHCP, Ad hoc networks: Characteristics, performance issue, routing in mobile host. Wireless sensor network, Mobile transport layer: Indirect TCP, Snooping TCP, Mobile TCP, Time out freezing, Selective retransmission, transaction oriented TCP. Introduction to WAP.

Unit V: Intruders, Intrusion detection, password management, viruses and related threads, worms, trojan horse defense, difference biometrics and authentication system, firewall design principle.

References:-

- J. Schiller, “Mobile Communication”, Addision , Wiley
- William Stalling, “Wireless Communication and Network”, Pearson Education
- Upen Dalal,” Wireless Communication”, Oxford Higher Education
- Dr. Kamilo Feher, “Wireless Digital communication”, PHI
- William C.Y Lee, “Mobile Communication Design Fundamental” , John Wiley.