MNG 403 D

COMPUTER NETWORK AND SECURITY

CREDIT: 4 CLASS HOURS: 40

Module I: Types of networks: LAN, MAN, WAN; concepts of Internet, Intranet, Extranet, WWW. Network topology, transmission media. Applications of networking in business and society. Concepts of data transmission, signal encoding, modulation methods, synchronization, multiplexing and concentration, coding method, cryptography.

Module II : Network: Communication system architecture – OSI reference model, Topology types, selections, design, Local area networks (LAN), CSMA / CD, token bus, token ring techniques, link level control (LLC) protocols, HDLC, analysis of protocols & performance, concepts in network layer, switching techniques, routing methods (static & dynamic), concepts of ALOHA, MACA, MACAW protocols. Concepts of Wi-Fi & Wi-Max. Case study: telephone network and satellite network.

Module III: TCP / IP: Session, Presentation and Application Layers functions. Networking and Internetworking devices: Introduction to repeater, hub, bridge, switch, router and gateway. Case study: Office network, Distributed Processing Potential: Client Server Computing, introduction to distributed database. Internet: Internet Protocols, IP addressing (IP4 + IP6), class & subnets (concept only), Internet computing, MPLS.

Module IV: Mobile Computing: Introduction to mobile technology, concept of GPRS, Wireless Application Protocols & other protocols, concept of Bluetooth. Network Security & Privacy: overview, purpose, spamming, cryptography (ciphering, DES, RSA -concept only), authentication (concept only), Digital Signature and firewall.

Module – V: The concerned faculty shall have the liberty to define the course contents under this module and teach students accordingly.

Reference Book:

1. Data Communication & Networking, Forouzan:, TMH.

2. Data and Computer Communications, Stallings, W., Pearson Education.

3. Computer Networks, Tanenbaum, Pearson