SECURE PROTOCOL DESIGN
(ELECTIVE – 1)

Course code: 13CS2205

L P C
4 0 3

Pre requisites: Network security, Computer Networks.

Course Outcomes:
By the end of the course Student will
CO1: Understand the various network security protocols.
CO2: Gain knowledge on various secure mechanisms through set of
       protocols.
CO3: Efficiently design new set of protocols.
CO4: Understand Security issues and overcome means with
       protocols.
CO5: Understand various routing technologies with multiple protocols.

UNIT – I
OSI:ISO Layer Protocols:-Application Layer Protocols-TCP/IP, HTTP, SHTTP, LDAP, MIME,-POP& POP3-RMON-SNTP-SNMP. Presentation Layer Protocols-Light Weight Presentation
Protocol Session layer protocols.

UNIT – II
RPC protocols-transport layer protocols-ITOT, RDP, RUDP, TALI, TCP/UDP, compressed TCP. Network layer Protocols – routing protocols-border gateway protocol-exterior gateway protocol-internet protocol IPv4- IPv6- Internet Message Control Protocol- IRDP-Transport Layer Security-TSL-SSL-DTLS

UNIT – III
Data Link layer Protocol – ARP – In ARP – IPCP – IPv6CP – RARP – SLIP .Wide Area and Network Protocols- ATM protocols – Broadband Protocols – Point to Point Protocols – Other WAN Protocols- security issues.

UNIT – IV
Local Area Network and LAN Protocols – ETHERNET Protocols – VLAN protocols – Wireless LAN Protocols – Metropolitan Area Network Protocol – Storage Area Network and SAN

UNIT – V
Protocols -FDMA, WIFI and WIMAX Protocols- security issues. Mobile IP – Mobile Support Protocol for IPv4 and IPv6 – Resource Reservation Protocol. Multi-casting Protocol – VGMP – IGMP – MSDP .Network Security and Technologies and Protocols – AAA Protocols – Tunneling Protocols – Secured Routing Protocols – GRE- Generic Routing Encapsulation – IPSEC – Security.

TEXT BOOKS:

1. Jawin: "Networks Protocols Handbook", 3rd Edition, Jawin Technologies Inc., 2005.

2. Bruce Potter and Bob Fleck : "802.11 Security", 1st Edition, O'Reilly Publications, 2002.

REFERENCES:

1. Ralph Oppliger :"SSL and TSL: Theory and Practice", 1st Edition, Arttech House, 2009.

2. Lawrence Harte: "Introduction to CDMA- Network services Technologies and Operations", 1st Edition, Althos Publishing, 2004.

3. Lawrence Harte: "Introduction to WIMAX", 1st Edition, Althos Publishing, 2005.