

SECURE PROTOCOL DESIGN (ELECTIVE – I)

Course code: 15CS2205

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Pre requisites: Network security, Computer Networks.

Course Outcomes: By the end of the course Student will

CO1: Get the exposure to various protocols.

CO2: Gain knowledge on various secure mechanisms through set of protocols.

CO3: Efficiently design new set of protocols.

CO4: Learn Security issues and overcome means with protocols.

UNIT – I (10-Lectures)

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 (10-Lectures)

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 (10-Lectures)

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 (10-Lectures)

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

UNIT – V (10-Lectures)

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.