



STANLEY

COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN

(Approved by AICTE , New Delhi | Affiliated to Osmania University ,Hyderabad)
Address : Chapel Road, Abids ,Hyderabad

BIT 351

COMPUTER NETWORKS

UNI T - I

Introduction: Uses of Computer Networks, Network Hardware, Network Software: Reference Models (ISO - OSI, TCP/IP).

Network Layer: Network Layer Design Issues, Routing Algorithms, Congestion Control Algorithms, Quality of Service.

UNI T - II

Internetworking: Concatenated virtual circuits, Connectionless internetworking, Tunneling, Internetwork routing, Fragmentation.

Network layer in the Internet: IP protocol, IP addresses, Internet control protocols, OSPF, BGP, Internet Multicasting, Mobile IP, IPv6.

Transport Layer: The Transport Service, Elements of Transport Protocols, The Internet Transport Protocols: UDP, Internet Transport Protocols: TCP.

UNIT - III

Network Programming:

Socket Interface: Sockets, Socket Address, Elementary Sockets, Advanced Sockets, Socket

Options, Out of Band Data, Daemon process and Internet SuperServer, IPv4 and IPv6 interoperability.

Remote Procedure Calls: Introduction, Transparency Issues and Sun RPC.

UNI T - I V

Application Layer:

Domain Name System: DNSName Space, Resource Records, Name Servers.

Electronic Mail: Architecture and Services, User Agent, Message Formats, Message transfer and Final Delivery.

World Wide Web: Architectural Overview, Static Web Documents, Dynamic Web Documents, HTTP, Wireless Web.

Multimedia: Digital Audio, Streaming Audio, Voice over IP, Video on Demand.

UNIT - V

Network Security: Cryptography, Symmetric Key Algorithms, Public Key Algorithms,

Digital Signatures, Management of Public Keys, Communication Security, Authentication Protocols, E-mail Security, Web Security.

Suggested Reading:

1. Andrew S. Tanenbaum, Computer Networks, Fourth Edition, Pearson Education.
2. W. Richard Stevens, Unix Network Programming” Prentice Hall/Pearson Education, 2009.
3. James F. Kurose, Keith W, Ross, Computer Networking, Atop-Down Approach Featuring the Internet, Third Edition, Pearson Education, 2005.
4. William Stallings, Computer Networking with Internet Protocols and Technology, Pearson Education, 200