Course Number and Name
BEC601 - COMPUTER COMMUNICATION AND NETWORKS

Credits and Contact Hours
3 and 45

Course Coordinator's Name
Mr V.Srinivasan

Text Books and References

TextBook:

1. Behrus A. Forouzan etal, "Data Communication and Networking", 2nd Edition, Tata McGraw Hill

References:

1. William Stallings, "Data and Computer Communication", Fifth Edition, Prentice Hall of India,1997.

2 . Andrew S.Tanenbaum, "Computer networks", Third Edition, prentice Hall of India, 1996.

3 . www.studytonight.com/computer-network...

Course Description

- To make the students to understand the different layers of ISO /OSImodel and TCP/IP Network IEEE standards.

- To understand IP addressing methods and QOS parameters.

- To know he functions and congestion control mechanism of TCP.

- To know about application layer and network security.

Prerequisites	Co-requisites
Communication Engineering-I	Communication Engineering-II

required, elective, or selected elective (as per Table 5-1)
required

Course Outcomes (COs)

CO1: Explain the networks, topologies and layers of OSI model,compare with TCP/IPmodel.
CO2: Classify error control and flow control techniques and   types of LAN technologies
CO3: Analyze different routing algorithms and methods to improve QOS.
CO4: Explain the role of protocols in networking.
CO5: Summarize the transport layer protocols and congestion controls methods
CO6: Describe various application layer services and cryptographic techniques.

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	j	k
CO1	H	H			M	M				H	L
CO2	M	L							M		
CO3	M	H	M	M			H			M	
CO4	M	H	M	M	H		M		M		H
CO5								L	H		
CO6	H					M					

List of Topics Covered

UNIT I   DATA COMMUNICATION: 9

ISO reference model, Open system standard, Transmission of Digital Data – Electrical Interface, MODEMS, Line Configuration, Encoding and Decoding, Multiplexing, Error Detection and Correction (CRC).

UNIT II   DATA LINK CONTROL AND PROTOCOLS: 9

Flow control and error control, stop and wait, Sliding windows, Automatic Repeat (ARQ), Asynchronous Protocols, - X MODEM, Y MODEM, Synchronous protocols – Character Oriented and Bit oriented protocols (HDLC).

UNIT III   LOCAL AREA NETWORKS: 9

IEEE 802 standards, LLC, MAC layer protocols – CSMA/CD Ethernet, Token Bus, Token Ring, FDDI, Distributed Queue Dual Bus, Switched Multimega Bit Data Service.

UNIT IV   WIDE AREA NETWORKS: 9

Circuit Switch packet Switch, Message Switching, X .25 Protocols, Architecture And Layers of Protocol, Frame Delay, ISDN and ATM Protocol, Internet working Device, Repeater, Bridge, Routes and Gateways, Routing Algorithms.

UNIT V   UPPER OSI LAYERS: 9

Session layer protocols, Presentation layer – Data Security, Encryption/Decryption, Authentication, Data Composition, Application layer protocols – MHS, File transfer, Virtual terminal, CMIP.