BC 204 COMPUTER NETWORKS

Course Description and Objectives:

This course will focus on imparting knowledge about the aspects of data communication and computer network systems with the required basic principles behind them. To provide essential knowledge about the OSI model and TCP/IP model. To create a good foundation covering the physical, data link, network, transport and application layers.

Course Outcomes: After Completion of the subject student should able to

- To understand the communication basics.
- To have the knowledge of different networks.
- To know about different protocols.
- To understand how to find the routes by using different routing algorithms.
- To Understand the basics of Internet.

Unit-1 Introduction
uses of computer Network, Business,Home, Mibileusers, Social Issues. Network Hardware: PAN, LAN, MAN, WAN.
Network Software: Protocol Hierarchies, Design issues, service primitives

Unit-2 Reference Models
OSI, TCP/IP, Comparison, Critique of OSI, Example networks. 3G Moblie phone network, Wireless LAN, RFID, Sensor Network.

Unit-3 Physical layer
Guided Media, The Mobile phone System.

Unit-4 Datalink Layer
Design Issues, framing, elemetary protocols, Simplex, stop and wait, sliding window protocols: 1 bit, GOBACK N, Selective Repeat.

Unit-5 Network Layer
Design Issues, Virtual circuit and Datagram comparision, routing Algorithms : shortest path, flooding, Distance Vector, Congestion control Algorithms: 5 approaches.

TEXT BOOK:

1. Andrew S Tanenbaum, "Computer Networks", 4th ed., Pearson Education, 2003.

REFERENCE BOOKS:

1. Behrouz A. Forouzan, "Data communications and Networking", 3rded.,TMH, 2003.
William Stallings, "Data and Computer Communications", 7th ed., Pearson Education, 2004.