

GUJARAT UNIVERSITY

K. S. SCHOOL OF BUSINESS MANAGEMENT
[Five Years' (Full-time) Integrated Degree Course]

Semester-6 [M.Sc. (CA & IT)]

Subject Code: - KS_C_CC-363

Subject Name: - Data Communication and Networking

Course Credit: - 3

Objective:

To understand Fundamental of networking & data communication .To understand network models functionality in depth.

Unit No.	Course Content	Weight-age (%)
1	<ul style="list-style-type: none">• Introduction: Uses of computer network, Network hardware – LAN, MAN, WAN. Network software – protocol hierarchies, Design issues for layers, Connection oriented and connectionless services, OSI model, TCP/IP model, Comparison of OSI and TCP/IP model.• Physical Layer: Data and Signals, Periodic Analog Signals, Digital Signals, Transmission Impairment. Data Rate Limits, Performance, Multiplexing, Spread Spectrum, Guided Media.	(20%)
2	<ul style="list-style-type: none">• Switching : Circuit Switched Networks, Datagram Networks, Virtual circuit networks.• The Data Link Layer : Introduction, Error Detection and Correction, Data link control services, Data Link Layer Protocols,	(20%)
3	<ul style="list-style-type: none">• The Medium Access Control (MAC):-Random Access, Controlled Access, Channelization• Connecting Devices	(20%)
4	<ul style="list-style-type: none">• The Network Layer : Introduction, Network Layer services, Packet switching, Network Layer performance, IPv4 Addressing, Forwarding of IP packet, introduction of Unicast routing, Unicast routing algorithms, introduction of Multicast routing.	(20%)
5	<ul style="list-style-type: none">• The Transport Layer : The transport service - Services provided to the upper layers, Transport service primitives, Elements of transport protocol - addressing, Connection establishment, Connection release, Flow control, Multiplexing,• The Application layer: Introduction of Electronic mail ,World Wide Web: Architectural , HTTP ,FTP,SMTP	(20%)

Recommended Lecture Scheme: Approximately 40 to 45 hours of classroom teaching.

Recommended Practical Scheme: Applicable

Assignment: Minimum 3 assignments.

Main Reference Books:

1. Data Communications and Networking By Behrouz A. Forouzan, Tata McGraw-Hill, Fifth Edition

Reference Books:

1. Computer Networks
By Bhushan H Trivedi, Oxford University Press
2. Computer Networking
By Andrew S. Tanenbaum, Prentice Hall, Fourth Edition