

**Unit – I**

**Chapter 1 : Fundamentals of Data Communication  
1-1 to 1-24**

**Syllabus :** Process of data communication and its components : Transmitter, Receiver, Medium, Message, Protocol, Protocols, Standards, Standard organizations. Bandwidth, Data transmission rate, Baud rate and Bits per second. Modes of communication (Simplex, Half duplex, Full duplex). Analog signal and digital signal, Analog and digital transmission : Analog to digital, Digital to analog conversion.

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**2-1 to 2-24**

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**Unit – IV**

**Chapter 9 : Network Connecting Devices 9-1 to 9-14**

**Syllabus :** Network connecting devices – Hub, Switch, Router, Bridge, Repeater, Gateway, Modem, Wireless infrastructure components.

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**Unit – V**

**Chapter 11 : TCP / IP Model 11-1 to 11-44**

**Syllabus :** Layered architecture, Data link layer : Nodes and links, Services, Two categories of links, Two sublayers, Link layer addressing, Three types of addresses, Address resolution protocol (ARP), Network layer : Addresses : Address space, Classful and classless addressing, Dynamic host configuration protocol (DHCP), Network address resolution (NAT), Transport layer protocol : Transport layer services, Connectionless and connection oriented protocol.

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**Unit – V**

**Chapter 12 : IP Addressing** **12-1 to 12-30**

**Syllabus :** Introduction, Addressing mechanism in the Internet IP addressing - IP address classes, Classless IP addressing, Subnetting, Supernetting, Masking, IPv4 and IPv6, Comparison of OSI and TCP/IP network models.

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