

Major Paper VI : Data Communications and Networks

Unit I

Data Communication – Networks – Protocols and Standard – Line configuration – Topology – Transmission Mode – Categories of networks – Internet works.

Unit II

The OSI Model – Functions of the layers – TCP/IP Protocols suite – Signals – Analog and Digital Signal – Data Transmission – Data Terminal Equipment – Data Circuit Terminals equipment – Modems.

Unit III

Transmission of Media – Guided Media – Unguided Media – Transmission Impairments – Media Comparison – Multiplexing – FDM – TDM – WDM. Error Detection and Correction – Types of errors – Detection – Vertical Redundancy Check (VRC) – Longitudinal Redundancy Check (LRC) – Cyclic Redundancy Check (CRC). Check Sum – Error Correction.

Unit IV

Switching – Circuit Switching – Packet Switching – Message Switching Networking and Internetworking Devices – Repeaters – Bridges – Routers – Gateways. Routing Algorithm – Distance Vector Routing – Link State Routing – Data Link Control – Discipline – Flow Control.

Unit V

Internet working : TCP/IP Protocol Suite – Client Server Model – Domain Name System – File Transfer Protocol (FTP) – Simple Mail Transfer Protocol (SMTP) – World Wide Web (WWW) – Hyper Text Transfer Protocol (HTTP).

Text Book :

“Data Communications and Networks” – Behrouz A.Forouzan Second Edition, Tata McGraw Hill Edition.

Reference Book :

1. “Introduction to Networking” – Barry Nance, Fourth Indian Eastern Economy Edition.
2. “Computer Networks” – Andrew S. Tanenbaum 4th Edition Eastern Economy Edition, 2003.