Computer Networks

Unit-I:

1. What are the components of Data Communication System?
2. Explain various topologies of a Network. (Bus, Star, Ring, Mesh)
3. What are the various Transmission Modes? (Simplex, Half-Duplex, Full-Duplex)
4. Explain various types of Networks. (LAN, MAN, WAN)
5. OSI Model – 7 Layers & their functions
6. TCP/IP Model.
7. Explain in detail about Guided Media(twisted pair, Coaxial Cable, Optical Fiber) and Unguided media (Satellite Communication & Cell phone).
8. Explain various types of Multiplexing. (FDM & TDM)

Unit-II:

1. Explain various Error Detection Techniques. (VRC, LRC, CRC, Checksum)
2. Error Correction Techniques. (Hamming Code, Burst Error)
3. Explain various Line Discipline Protocols. (ENQ/ACK, Poll/Select)
4. Explain various Flow Control Methods.(Stop and Wait , Sliding Window)
5. Explain various Error Control Methods. (Stop and Wait ARQ, Sliding window ARQ, Go-Back N, Selective Reject)
6. Explain about IEEE 802
7. Explain various types of Switching. (Circuit, Packet, Message)

Unit-III:

1. Explain various Networking Devices. (Repeater, Bridge, Switch, Router, Gateway…)
2. Explain Distance Vector Routing Algorithm with an example.
3. Explain Link State Routing Algorithm.
4. What are the duties of Transport Layer?
5. Explain in brief about Session, Presentation and Application Layers.