III YEAR VI SEMESTER

Elective

Paper VII(B) DATA COMMUNICATIONS

UNIT I

Introduction : A communication model – data communication – data communication networking. Protocol Architecture: Need for protocol architecture – a simple protocol architecture – OSI – TCP/IP protocol architecture.

UNIT II

Data transmission: concepts and terminology – analog and digital data transmission – transmission impairments – Channel Capacity -- Transmission Media: Guided and Unguided.

UNIT III

Signal encoding techniques: Digital data digital signals – digital data analog signals – analog data digital signals– analog data analog signals.

UNIT IV

Digital Data Communication Techniques: Asynchronous and Synchronous transmission – types of errors -- error detection techniques –error correction techniques – interfacing.

UNIT V

Multiplexing: Frequency division multiplexing – characteristics. Synchronous time division multiplexing – characteristics, TDM Link Control. Statistical time division multiplexing -- characteristics.

Text Books:

1. Data and computer communications, William Stallings, Pearson Education 7th Edn
2. Data Communications and Networking by Behrouz A Forouzan, PHI, 4th Edn.

Reference Books:

1.Data Communications, Computer Networks and Open systems by Fred Halsall,4th edi., Pearson Education