Paper Cade: BCASEC 3.9	Paper Title: Data Communication	Teaching Hours: 2 Hrs / Week
Total Teaching Hours: 30Hrs	Marks: Th-40+IA-10	Credits: 2

UNIT I
Introduction: Computer Networks and its applications, Network structure, network architecture, Topologies, LAN, WAN, MAN, The OSI reference model, The TCP/IP reference model. The Physical Layer: Transmission Media – Twisted pair, coaxial cable, optical fiber, radio transmission, microwaves and infrared transmission, Switching – message switching, Multiplexing. **10 Hrs**

UNIT II
The Data Link Layer: Data Link Layer design issues, Error detection – Single parity checking, Checksum, polynomial codes – CRC, Error correction- Hamming code, Elementary data link protocols, sliding window protocols. **10 Hrs**

UNIT III
The Medium Access Control and LANS: The channel allocation problem, multiple access protocols ALOHA, Slotted ALOHA, CSMA protocols. **10 Hrs**

References:
1. Andrew S. Tanenbaum, Computer Networks, 5th Ed, Pearson Education
2. Behrouza A Forouzan, Data Communication & Networking, Tata McGraw Hill
3. William Stallings, Data and Computer Communications, 7th Edition, PHI.
4. W. A. Shay, Understanding communications and Networks, 3e, Cengage Learning.

Additional Reading:
1. W. Stalling, Wireless Communication and Networks, PearsonEducation.
2. Brijendra Singh, Data Communication and Computer Networks,PHI.
3. Dr. Prasad, Data Communication & Network, WileyDreamtech.
4. http://highered.mheducation.com/sites/0072967757/index.htmls