High Performance Communication Networks (EC 836)

1. **Overview:** Networking principles, future networks (3 Hrs). Text: Chapter-1

2. **Packet Switched Networks:** OSI Model, Ethernet, Token Ring, FDDI, DQDB, Frame delay, SMDS (6 Hrs). Text: Chapter-3

3. **TCP/IP Networks:** IPv4, Multicast IP, Mobile IP, IPv6, SMTP, TFTP, HTTP, Performance of TCP/IP networks (7 Hrs). Text: Chapter-4

4. **Circuit Switched Networks:** SONET/DH, WDM, FTTH, DSL, Intelligent networks, CATV, MPEG (7 Hrs). Text: Chapter-5

5. **ATM:** Features, addressing, structure, AAL, Management and control, BISDN, Internet working with ATM (7 Hrs). Text: Chapter-6

6. **Wireless Networks:** Wireless Networks, Link designs, network design, future systems (8 Hrs). Text: Chapter-7

7. **Optical Networks:** Links, WDM, Optical LAN, wavelength routing (8 Hrs). Text: Chapter-11

8. **Toward a Global Multimedia Network:** Attributes, Technology, Challenges, Introduction to bluetooth, VoIP, WiFi (4 Hrs). Text: Chapter-13

Text Book:

1. "High Performance Communication Networks", Jean Walrand, Pravin Varaiya, 2nd ed, Morgan Kaufmann Publishers (2000).

Reference Books:

1. "Computer Networks", James F.Kurose, Keith W.Ross, 2nd ed., Pearson Education (2003)

2. "Optical Networks: A Practical Perspective", Rajeev Ramaswami, Kumar Sivarajan, 2nd ed, Morgan Kaufmann Publishers (2000).