



Subject: Data Communication and Computer Network

week	Syllabus of subject	hours
2	Background and history of networking and the Internet. Data communication, standards and protocols.	4
3	Transmission media, Time and frequency domain, multiplexing, time division multiplexing, frequency domain multiplexing.	6
3	Line configuration, Topology, Transmission mode, Categories of networks (LAN, MAN, WAN), Internetworks	6
1	Network model (server-client, peer to peer).	2
2	Signals, analog and digital signals, periodic and aperiodic signals	4
3	Encoding, digital to digital encoding, analog to digital encoding, digital to analog encoding, analog to analog encoding.	6
3	OSI model and its functions	6
2	Network devices (Hub, switch, bridge, gateway, router, repeater), Collision & Broadcast Domain	4
2	TCP/IP protocol suites.	4
4	IP addressing and subnetting, VLSM subnetting	8
3	Routing protocols using packet tracer	6
2	WWW Services and HTTP, SMTP and POP, E-mail Server Processes, File Transfer Protocol, Dynamic Host Configuration Protocol (DHCP)	4

References:

- 1- Behrouz A. Forouzan, "Data Communications and Networking", 5/e, McGraw-Hill Global Education Holdings, LLC, 2013, ISBN: 0073376221.
- 2- Andrew S. Tanenbaum and David J. Wetherall, "Computer Networks", 5th Edition, Pearson Education, 2011.