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| **CS 352 Computer Networks 3-0-0-6** |
| **Network Basics:**Evolution of computer networks; Network Models, Network Media, LAN, MAN and WAN, needs and goals of networking topology, network architecture, need for protocols, OSI Reference Model, layer services, primitives and service access points.  **Data link layer:** Framing, HDLC, PPP, sliding window protocols, medium access control, Token Ring, Wireless LAN; Virtual circuit switching: Frame relay, ATM;  **Network Layer:** Internet addressing, IP, ARP, ICMP, CIDR, routing algorithms (RIP, OSPF, BGP);  **Transport Layer:** UDP, TCP, flow control, congestion control; Introduction to quality of service;  **Application Layer:** DNS, Web, email, authentication, encryption. |
| *Texts:*  *1. Andrew S. Tanenbaum, David J. Wetherall, "Computer Networks", 4th Ed., Prentice Hall, 2003.* |
| *References:*  *1.* Behrouz A. Forouzan*, “Data Communications and Networking”, 4th Ed., Tata Mcgraw Hill, 2006.* |

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| **CS 353 Computer Networks 0-0-4-4** |
| Linux network configuration, measurement and analysis tools: Wireshark.  Socket programming: TCP and UDP, peer-to-peer applications; reliable communications using unreliable datagrams; client-server using RPC; concurrent servers using threads or processes.  Assignments on simulation of LAN, Wi-Fi etc using network simulator. |
| *References:*  *1. http://tldp.org/*  *2. http://www.nsnam.org/documentation/* |

**Grading:**

4 Tests – Best 3 will be considered. Therefore, if you miss the test, then there will be no re-test.

Assignments would carry 10% weightage.