3IT82: INTERNET TECHNOLOGY
CREDITS -3 (LTP: 3,0,0)

Course Objective:
To provide knowledge regarding working of Internet, implementation of network with different topologies and server configuration.

Teaching and Assessment Scheme:

Teaching Scheme (Hours per Week)			Credits	Assessment Scheme				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE	CE	ESE	CE	
3	0	0	3	60	40	-	-	100

Course Contents:

Unit No.	Topics	Teaching Hours
1	**Introduction To Internet:** Internet, Growth of internet, Owners of the internet, Anatomy of internet, ARPANET and internet, History of WWW, HTTP protocol, Request and response messages, Methods of HTTP, HTTPS, SMTP, IMAP, POP3 and DNS, Internet applications, Impact of internet on society, Transmission infrastructure, Internet Standards: Standards bodies and the standards process, IETF, ITU, IEEE, ATM forum.	8
2	**Internet Technology, Protocols And Addressing:** Packet switching technology, Internet protocols: TCP/IP, Router, Internet addressing scheme: Machine addressing (IP address), E-mail addresses and Resources addresses.	6
3	**Internet Network:** Network definition, Common terminologies: LAN, WAN, Node, Host, Workstation, Bandwidth, Interoperability, Network administrator, Network security, Network components: Severs, Clients, Communication media, Types of network: Peer to Peer, Clients server, Addressing in internet: DNS, Domain Name and their organization, understanding the internet protocol address, Network topologies: Bust, Star and ring, Ethernet, FDDI, ATM and intranet.	8
4	**Networking Hardware And Software Components:** Network interface cards, Network cables, Network connecting devices, Core Components:Hardware platforms, Internet server components, Web servers, E-mail servers, FTP servers, Proxy servers, News servers, Directory servers, Mirrored servers.	6
5	**Access Methods and Internet Working:** Access Network Architectures: Access Network characteristics. Differences between Access Networks, Local Area Networks and WideArea Networks. Access Technologies: Why there is an upper limit on modem speeds.Voice grade modems, ADSL, Cable Modems, Frame Relay.	5

Unit No.	Topics	Teaching Hours
6	**Internet Application:** FTP, Telnet, Email, Chat. World Wide Web: HTTP protocol.Search Engines. E-Commerce and security issues including symmetric and asymmetrickey, encryption and digital signature, and authentication. Emerging trends, Internettelephony, virtual reality over the web, etc.	6
7	**Internet Security Management Concepts, Information Privacy And Copyright Issues:** Overview of internet security, Firewalls, Internet security, Management concepts and information privacy and copyright issues, Basics of asymmetric cryptosystems.	6
	Total	**45**

List of References:

1. Greenlaw R and Hepp E, *"Fundamentals of Internet and www"*, 2nd EL, Tata McGraw-Hill, 2007.
2. D. Comer, *"The Internet Book",* Pearson Education, 2009.
3. P. J. Deitel, H. M. Deitel, *"Internet and World Wide Web: How to program",* Pearson publication.
4. M. L. Young, *"The Complete reference to Internet",* Tata McGraw Hill, 2007.
5. Douglas E Comer, *"Computer Networks and Internets With Internet Applications",* Pearson.
6. Douglas E Comer, *"Internetworking with TCP / IP, Principles, Protocols & Architecture",*6th Edition, PHI.
7. William Stallings "*Data & Computer Communications*" 8th Edition.
8. A.Farrel IElseviers, "*The Internet and its protocols – A Comparative Approach*" , Morgan Kaufmann Publishers.

Course Outcomes (COs):

At the end of this course students will be able to …

1. Understand the current topics in Web & Internet technologies.
2. Describe the basic concepts for network implementation.
3. Learn the basic working scheme of the Internet and its working.
4. Understand fundamental working of networking hardware and software technology.
5. Understand various internet application and its importance.
6. Identify the various security hazards on the Internet and need of security measures.