



**Sub Committee for Curriculum Development**  
**Specialization : IT Infrastructure Management**

**Course Name:** Network Infrastructure Essential

**(UG/PG):** UG

**Number of Credits:** 4

**Level:** 2

**Learning Objective(s):** The course is designed to build an understanding of various network infrastructure components, LAN/WAN protocols and routing techniques. Upon completion of the course student can able to configure and setup network.

**Pedagogy:**

Classroom Sessions  
Hands-on Lab Sessions

**Pre-requisites:** An understanding of Computer Networking

**Course Outline :**

Sr. No.	Topics	Hours
1	Standards and method of network design, Analysis of user requirements, Network topology design, Infrastructure selection	6
2	Switched LAN Architecture, Matching Switches to Specific LAN Functions, Forwarding Frames Using a Switch, Switch Management Configuration	6
3	VLANs :VTP Concepts, configuring VLAN, VTP Operation, Configure VTP	6
4	IP address planning, subnetting, Naming conventions, Router: Configuring router, Routing protocol design- Routing with RIP,OSPF, Configuring access list on router, Gateways	12
5	Broadband services – ADSL, cable, Fibre, 3G / 4G Introduction to VPN, benefits, types VPN, VPN tunneling and IPSec security protocol.	8
6	WAN Technology	8

	Internet lease lines, MPLS, lastmile connectivity WAN technologies and connection points, HDLC,PPP	
7	Wireless Networking The Wireless LAN, WLAN topologies, Antenna Communication, 802.11 WLAN protocol, Wireless LAN Security, Configure Wireless LAN Access	10
8	Planning and design of campus network Maintenance and Security	4
	Total	60

**Book Recommended:**

1. CCNA Cisco Certified Network Associate, Lammle Todd.
2. Interconnecting Cisco Networks, Eliter Mcdquerry.

**Research Papers/Articles recommended for reading:**

**Suggested Evaluation Methods:**

On-line quizzes,  
Practical exam,  
Assignments and Mini Project

**Parallel/Similar courses the existing curriculum:**

S.No.	Name of the course	Institute where it was offered

Name of Member	Harshad Gune	Priti Kulkarni			
Designation	Dy. Director	Asst. Professor			
Org. / Inst.	SICSR	SICSR			
Signature					

Name of the Expert:

Signature:

Date: