

**Discipline:** Computer Engg.  
**Semester:** 6th  
**Subject:** NETWORK SECURITY  
**Lesson Plan Duration:** 15 weeks (from Mar, 2021 to Jun, 2021)  
**Work Load (Lecture/ Practical) per week (in hours):** Lectures + Practical - 03 +03

Week	Theory		Practical	
	Lecture day	Topic (including assignment/test)	Practical day	Topic
1st	1st	Need for securing a network, Principles, of Security	1st	Introduction About Network Security
	2nd	Type of attacks		
	3rd	introduction to cyber crime		
2nd	4th	cyber law-Indian Perspective (IT Act 2000 and amended 2008), cyber ethics,	2nd	Introduction About Network Security and types of Attacks
	5th	Ethical hacking. What is hacking? attacker, phreaker etc.		
	6th	TEST		
3rd	7th	Introduction to basic encryption and decryption	3rd	Installation of various antivirus software
	8th	Concept of symmetric		
	9th	asymmetric key cryptography		
4th	10 <sup>th</sup>	overview of DES	4th	Comparison of various antivirus software
	11 <sup>th</sup>	RSA and PGP		
	12 <sup>th</sup>	Introduction to Hashing		
5th	13 <sup>th</sup>	MD5, SSL, SSH.	5th	Study of various parameters of firewall. Installation and study of various parameters of firewall.
	14 <sup>th</sup>	HTTPS		
	15 <sup>th</sup>	Digital Signatures, Digital certification, IPSec		
6th	16 <sup>th</sup>	Revision and assignments	6th	Writing program in C to Encrypt/Decrypt using XOR key.
	17 <sup>th</sup>	TEST		
	18 <sup>th</sup>	Definitions, preventive measures		
7th	19 <sup>th</sup>	access control, checksum verification	7th	Writing program in C to Encrypt/Decrypt using XOR key.
	20 <sup>th</sup>	Process configuration		
	21 <sup>th</sup>	virus scanners		
	22 <sup>th</sup>	heuristic scanners		

8th	23 <sup>th</sup>	Application level virus scanners, Deploying virus protection.	8th	Revision and Problem solving
	24 <sup>th</sup>	TEST		
9th	25 <sup>rd</sup>	Definition and types of firewalls	9th	Study of VPN.
	26 <sup>th</sup>	Firewall configuration		
	27 <sup>th</sup>	Limitations of firewall.		
10 <sup>th</sup>	28 <sup>th</sup>	TEST	10 <sup>th</sup>	Study of VPN.
	29 <sup>h</sup>	Introduction; IDS limitations – teardrop attacks		
	30 <sup>th</sup>	counter measures		
11 <sup>th</sup>	31 <sup>th</sup>	Host based IDS set up	11 <sup>th</sup>	Study of various hacking tools.
	32 <sup>th</sup>	<b>TEST</b>		
	33 <sup>st</sup>	Handling Cyber Assets- Configuration policy as per standards		
12 <sup>th</sup>	34 <sup>rd</sup>	Disposable policy	12 <sup>th</sup>	Study of various hacking tools.
	35 <sup>th</sup>	Revision and assignments		
	36 <sup>th</sup>	TEST		
13 <sup>th</sup>	37 <sup>th</sup>	Basics, setting of VPN, VPN diagram	13 <sup>th</sup>	Practical applications of digital signature.
	38 <sup>th</sup>	configuration of required objects		
	39 <sup>th</sup>	exchanging keys, modifying security policy		
14 <sup>th</sup>	40 <sup>th</sup>	Disaster categories, network disasters	14 <sup>th</sup>	Practical applications of digital signature.
	41 <sup>th</sup>	cabling, topology, single point of failure,		
	42 <sup>th</sup>	save configuration files, server disasters		
15 <sup>th</sup>	43 <sup>th</sup>	UPS, RAID, Clustering, Backups, server recovery	15 <sup>th</sup>	Revision and Problem solving
	44 <sup>th</sup>	Revision		
	45 <sup>th</sup>	<b>TEST</b>		