

Lesson Plan				
Name of Faculty		Promila Hansu		
Discipline		Computer Engineering		
Semester		6 <sup>th</sup>		
Subject		Network Security		
Lesson Plan Duration		15 week (From January 2019 to April 2019 )Theory : 03,Practical:03		
Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
1 <sup>st</sup> Week	1 <sup>st</sup>	<b>Introduction:</b> Need for securing a network	1 <sup>st</sup>	Installation and comparison of various antivirus software
	2 <sup>nd</sup>	Principles of Security		
	3 <sup>rd</sup>	Type of attacks		
Week 2	1 <sup>st</sup>	Introduction to cyber crime & cyber law-Indian Perspective (IT Act 2000 and amended 2008),	1st	Installation and study of various parameters of firewall
	2 <sup>nd</sup>	Cyber ethics & ethical hacking		
	3 <sup>rd</sup>	What is hacking? Attacker, phreaker etc.		
Week 3	1 <sup>st</sup>	Assignment onCyber crime	1st	Practice of C language
	2 <sup>nd</sup>	<b>Securing Data over Internet:</b> Introduction to basic encryption and decryption		
	3 <sup>rd</sup>	Concept of symmetric and asymmetric key cryptography		
Week 4	1 <sup>st</sup>	Assignment on cryptography	1 <sup>st</sup>	Writing program in C to Encrypt using XOR key.
	2 <sup>nd</sup>	Test		
	3 <sup>rd</sup>	Overview of DES, RSA and PGP		
Week 5	1 <sup>st</sup>	Introduction to Hashing: MD5, SSL	1 <sup>st</sup>	Writing program in C to Decrypt using XOR key.
	2 <sup>nd</sup>	Introduction to Hashing: MD5, SSL, SSH, HTTPS,		
	3 <sup>rd</sup>	Digital Signatures, Digital certification		
Week 6	1 <sup>st</sup>	Digital Signatures, Digital certification, IPSec	1 <sup>st</sup>	Study of VPN.
	2 <sup>nd</sup>	Assignment on Hashing		
	3 <sup>rd</sup>	Test		
Week 7	1 <sup>st</sup>	<b>Virus, Worms and Trojans: Introduction &amp; Definition</b>	1 <sup>st</sup>	Study of VPN./with Practical
	2 <sup>nd</sup>	preventive measures – access central		
	3 <sup>rd</sup>	checksum verification & process configuration		
Week 8	1 <sup>st</sup>	Assignment on Virus, Worms and Trojans	1 <sup>st</sup>	With Practical
	2 <sup>nd</sup>	Virus scanners & Heuristic scanners		
	3 <sup>rd</sup>	Application level virus scanners		

Week 9	1 <sup>st</sup>	Deploying virus protection	1 <sup>st</sup>	Study of various hacking tools.
	2 <sup>nd</sup>	Assignment & Test		
	3 <sup>rd</sup>	<b>Firewalls:</b> Definition and types of firewalls		
Week 10	1 <sup>st</sup>	Firewall configuration	1 <sup>st</sup>	Study of various hacking tools./ With Practical
	2 <sup>nd</sup>	Limitations of firewall.		
	3 <sup>rd</sup>	Assignment & Test		
Week 11	1 <sup>st</sup>	<b>Intrusion Detection System (IDS) :</b> Introduction & IDS limitations	1 <sup>st</sup>	With Practical
	2 <sup>nd</sup>	Teardrop attacks, counter measures; Host based IDS set up		
	3 <sup>rd</sup>	<b>Handling Cyber Assets-</b> Configuration policy as per standards		
Week 12	1 <sup>st</sup>	Disposable policy	1 <sup>st</sup>	Practical applications of digital signature.
	2 <sup>nd</sup>	<b>Virtual Private Network (VPN) :</b> Basics, setting of VPN,		
	3 <sup>rd</sup>	VPN diagram & Configuration of required objects		
Week 13	1 <sup>st</sup>	Exchanging keys, modifying security policy	1 <sup>st</sup>	Practice & Viva
	2 <sup>nd</sup>	Assignment		
	3 <sup>rd</sup>	Test		
Week 14	1 <sup>st</sup>	<b>Disaster and Recovery:</b> Disaster Categories	1 <sup>st</sup>	Domain Based Networking
	2 <sup>nd</sup>	Network disasters – cabling, topology		
	3 <sup>rd</sup>	Single point of failure, save configuration files		
Week 15	1 <sup>st</sup>	Server disasters – UPS, RAID, Clustering	1 <sup>st</sup>	With Practical
	2 <sup>nd</sup>	Backups, server recovery		
	3 <sup>rd</sup>	Assignment & Test		