

M.Sc. Computer Science

Compulsory credit course

Introduction to Cyber Security / Information Security

Module 1: Pre-requisites in Information and Network Security				
Online Teaching + Practical				
Date	Time	Chap	Topics	Hours
25-1-22	08.00am to 09.00 am	1	<b>Chapter 1: Overview of Networking Concepts</b> 1. Basics of Communication Systems 2. Transmission Media	1
26-1-22	10.00 am to 12.00 am	1	3. Topology and Types of Networks 4. TCP/IP Protocol Stacks 5. Wireless Networks 6. The Internet	2
27-1-22	05.00 pm to 07.00 pm	2	<b>Chapter 2: Information Security Concepts</b> 1. Information Security Overview: Background and Current Scenario 2. Types of Attacks 3. Goals for Security 4. E-commerce Security	2
28-1-22	05.00 pm to 07.00 pm	2,3	5. Computer Forensics 6. Steganography <b>Chapter 3: Security Threats and Vulnerabilities</b> 1. Overview of Security threats 2. Weak / Strong Passwords and Password Cracking	2
29-1-22	05.00 pm to 07.00 pm	3	3. Insecure Network connections 4. Malicious Code 5. Programming Bugs 6. Cybercrime and Cyber terrorism 7. Information Warfare and Surveillance	2
30-1-22	10.00 am to 12.00 am		<b>Test</b> <b>Chapter 4: Cryptography / Encryption</b> 1. Introduction to Cryptography /Encryption 2. Digital Signatures	1 1
31-1-22	05.00 pm to 06.00 pm		3. Public Key infrastructure 4. Applications of Cryptography 5. Tools and techniques of Cryptography	1
1-2-22	08.00 am to 09.00 am 01.00 pm to 02.00 pm		<b>Test1(Written paper)</b> <b>Test2(Practical Viva)</b>	1 1

Total Number of hours=Module-1(14 Hours)

Exam for 25 marks (Online Exam) based on Module 1



Course Coordinator

Shalini raje

Mrs. Swati Pulate

<b>Module 2: Security Management</b> Self-learning mode through moodle [uploading lecture notes+videos+assignment based on each topics]			
Date	Chap	Topics	Hours
	1	<b>Chapter 1: Security Management Practices</b>	
		1. Overview of Security Management	1
		2. Information Classification Process	1
		3. Security Policy	1
		4. Risk Management	1
		5. Security Procedures and Guidelines	1
		6. Business Continuity and Disaster Recovery	1
		7. Ethics and Best Practices	1
	2	<b>Chapter 2: Security Laws and Standards</b>	
		1. Security Assurance	1
		2. Security Laws	1
		3. IPR	1
		4. International Standards	1
		5. Security Audit, 6. SSE-CMM / COBIT etc	1
2-2-2022		Test	1

Self learning hours=12(lectures)

Test hours=1(lecture)

25 marks exam based on module 2



*Malini Raj*

Course Coordinator

*Swati Pulate*  
 M/s Swati Pulate

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Module 3: Information and Network Security				
Date	Time	Chap	Topics	Lectures
29-3-21	09.00 am to 11.00 am [Break 15 mins] 11.15am to 12.15 pm	1	Access Control and Intrusion Detection	3
30-3-21	06.00 pm to 08.00 pm	2	Server Management and Firewalls	2
31-3-21	06.00 pm to 08.00 pm	2	Server Management and Firewalls	2
01-4-21	06.00 pm to 08.00 pm	3	Security for VPN and Next Generation Technologies	2
02-4-21	09.00 am to 11.00 am [Break 15 mins] 11.15am to 12.15 pm	3	Security for VPN and Next Generation Technologies	3
Module 4: System and Application Security				
03-4-21	09.00 am to 11.00 am [Break 15 mins] 11.15am to 01.15 pm	1	<b>1: Security Architectures and Models</b> 1. Designing Secure Operating Systems 2. Controls to enforce security services	4
04-4-21	10.00 am to 11.00am	Exam for 25 marks based on Module 3		1

Date	Time	Chap	Topics	Lectures
05-4-21	06.00 pm to 08.00 pm	1, 2	3. Information Security Models <b>2: System Security</b> 1. Desktop Security	2
06-4-21	06.00 pm to 08.00 pm		2. email security: PGP and SMIME 3. Web Security: web authentication, SSL and SET	2
07-4-21	06.00 pm to 08.00 pm	2, 3	4. Database Security <b>3: OS Security</b> 1. OS Security Vulnerabilities, updates and patches	2
08-4-21	06.00 pm to 08.00 pm	3	2. OS integrity checks 3. Anti-virus software	2
09-4-21	06.00 pm to 08.00 pm	3	4. Configuring the OS for security 5. OS Security Vulnerabilities, updates and patches	2
10-4-21	09.00 am to 11.00 am [Break 15 mins] 11.15am to 01.15 pm	4	<b>4: Wireless Network and Security</b> 1. Components of wireless networks 2. Security issues in wireless	4
11-4-21	10.00 am to 12.00pm	Exam for 25 marks(Presentation +Viva) based on Module 4		2

Total Number of hours=

Module-3(13 Hours)

Module-4 (20 Hours)

  
Mrs. Swati Pulate





Course Coordinator