



Sub Committee for Curriculum Development

Course Name: Introduction to Vulnerability Assessment Penetration Testing

(UG/PG): UG

Number of Credits: 4

Level: 3

Learning Objective(s):

This course focuses on the identification of common Vulnerability and to conduct penetration testing on a simple network, including planning, testing and report writing. Upon completion of this course student can able to define and explain vulnerability and Penetration and give recommendations for remedial action.

Pedagogy:

Lectures
Case studies

Pre-requisites:

An understanding of Computer Networking and Computer Security

Course Outline

Sr. No.	Topics	Hours
1	Vulnerabilities Vulnerability analysis and management Building a Secure Organization Access Control Vulnerabilities Authentication Vulnerabilities Boundary Condition Vulnerabilities Configuration Weakness Vulnerabilities Evaluating Strong Authentication Methods	10
2	Attacks and Countermeasures Types of Attacks- Deliberate Software Attacks, Password crack, Brute force, Dictionary, Malicious Code, Denial-of-service (DoS), Spoofing, spam, Sniffers etc. Countermeasures Procedural Countermeasures Technical Countermeasures Education, Training and Awareness as Countermeasures	8
3	Incident Handling and Response Vulnerability Assessment and Penetration Testing Vulnerability Assessment Tools Understanding the Penetration Testing Process Different types of tests performed by penetration tester (black box tests, white box and gray box)	10

	Planning Vulnerability and Penetration Tests Monitoring Vulnerability and Penetration Testing Emergency Destruction Procedures	
4	Application Layer Protocols	10
5	Sniffing Interception	10
6	Firewalls	6
7	Authentication techniques	4
8	Report writing	2
	Total	60

Book Recommended:

1. Advanced penetration testing for highly secured environments: The ultimate Security Guide by Lee Allen
2. Computer and Information Security Handbook by John Vacca

Research Papers/Articles recommended for reading:

Xynos K, Sutherland I, Read, Everitt E and Andrew J.C. Blyth, "PENETRATION TESTING AND VULNERABILITY ASSESSMENTS"

Pierce, J., Jones, A., and Warren, M. (2007). "Penetration Testing Professional Ethics: a conceptual model and taxonomy", Australasian Journal Of Information Systems, 13(2).

Suggested Evaluation Methods:

- On line Exams
- Case Studies
- viva

Parallel/Similar courses the existing curriculum:

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

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

Name of the Expert:

Signature:

Date: