Course: Hands on Introduction to Ethical Hacking

Course Objective:

This course will introduce concepts of ethical hacking and penetration testing. Objectives of course are as follow:

1. Introduce ethical hacking and penetration testing.
2. Use of tools for implementing ethical hacking and penetration testing.

Course Outcomes:

At the end of successful completion of the course a student will be able to

1. Understand ethical hacking and penetration testing.
2. Gain ability to perform hacking and penetration testing using different tools.

Module No.	Description	Hrs.
1	**Introduction and setting up environment**	**04**
	Introduction to ethical hacking, terms related to hacking as in different types of vulnerability, anonymity, VPN, proxy, key loggers etc. **Hands on:** • Installing VM, Installing /using Kali , • Bash programing, • Installing /using Tor	
2	**Information Gathering and Vulnerability Scanning**	**04**
	Introduction to Footprinting, Information-Gathering Methodology, vulnerability scanning **Hands on:** • Netcraft • Whois Lookups • Maltego • Manual Port Scanning • Port Scanning with Nmap • Nessus	

Module No.	Description	Hrs.
3	**Cracking Passwords**	02
	Basics of password management, online/offline passwords: **Hands on:** • Hydra • John the Ripper	
4	**Using the Metasploit Framework**	04
	Introduction to metasploit framework, exploiting scanned vulnerability example Heartbleed, Vsftpd etc. **Activities:** • Finding Metasploit Modules • Setting Module Options • Payloads (or Shellcode) • Types of Shells • Setting a Payload • Using an Auxiliary Module • Using Netcat	
5	**Understanding Traffic**	02
	Analyzing Network Traffic, performing Man-in-Middle Attack. **Hands on:** • Wireshark	
6	**Web site Attack using SQL injection**	03
	Understanding to SQL injection and its exploitation. **Hands on:** • Burp • SQLMap	
7	**Capture The Flag(CTF) Exercises**	01
	Understanding different types CTF challenges. Participation in Mock CTF.	
	Total	**20**

Evaluation:
• 5 Lab exercises each evaluated for 10 Marks (5 x 10 = 50 Mark).
• Performance in CTF challenge hosted by external agency 50 Marks.

NB: Passing percentage 60, certificate will be awarded for student meeting passing criteria.