DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Value Added Course

on

ETHICAL HACKING MASTERY: DEFEND AND PROTECT

02.08.2024 to 09.08.2024

Course Objectives: **45 Hours**

- To Learn and build a Network Security
- To Learn Linux , Windows Command line Environment
- To Understand the essentials of cyber security
- To Use the Cyber security Tools

UNIT 1 : Introduction Of Cyber Security and Ethical Hacking   **(9)**
Basics of Cyber Security - Scopes of Cyber Security - Methodologies in Cyber Security - Ethical Hacking - Phases in Ethical hacking - Methodologies - Understanding Linux and Windows Command Line Environment - Intro to Red team and Blue team.

UNIT 2 : Introduction to Networking and Understanding Environment   **(9)**
Network - Network Devices - IP V4 and V6 - OSI Architecture - TCP/IP - Static IP and Dynamic IP - Identifying Shared and Private Server (Reverse IP) - Client and Server Communication - WHOIS - ViewDNS.info and whois. Domain tools - Working with Browser Extensions (Wappalyzer and What runs)

UNIT 3 : Information Gathering, Enumeration and Using Exploits   **(9)**
Intro to N map - Port Scanning - Speeding up scans - Service scanning - working with N map NSE scripts - Vulnerability NSE scripts - Intro to Search sploit - Intro to Exploit DB (tool and website) - Intro to Meta sploit - Exploiting Basic Linux and Windows Vulnerability.

UNIT 4 : Web Application Security Testing   **(9)**
Web Application - Analyzing web Application - Intro to OWASP - OWASP top 10 - Intro to Burp suite - Setting up Proxy with Browser (foxy proxy standard) - Sql injection - Understanding SQL queries - Trying Out SQL injection - SQLMAP - XSS - Understanding XSS - Trying XSS - Account Hijacking - Intro to Juice shop - Intro to Gin and Juice shop - Intro to Nikto - Intro to Web application Checklist.

UNIT 5: Expanding Works and Documentation   **(9)**
Thinking Offensive for Defensive - Intro to Pentest - Intro to Blue team - Preparing Suggestions and Recommendations - Preparing Documentation - POC (proof of Concept) - Adding Web Report to Pentest document

Course Outcomes:
At the end of the course, the students will be able to
- Understand How Real world Environment Works
- Perform Basic Vulnerability Assessments
- Understand and Use Attack tools for Different scenarios
- Prepare a Client Ready Pentest Document