Cybersecurity Fundamentals Syllabus

Module 1: Introduction to Cybersecurity

- What is Cybersecurity?
- Importance of Cybersecurity

Module 2: Networking Fundamentals

- Introduction to Networks
- Types of Networks
- Network Topologies
- OSI Model
- TCP/IP Model
- IPv4 and IPv6
- Subnetting

Module 3: Linux Fundamentals

- What is Linux?
- Open-Source Software
- Linux Vendors and Kernel
- What is Shell?
- Accessing the Command Line
- Linux File System Hierarchy
- File Management Using CLI
- Shell Expansions and File Links

Module 4: Ethical Hacking Introduction

- Elements of Security
- Phases of Hacking
- Types of Hackers
- Types of Attacks

Module 5: Footprinting and Reconnaissance

- Introduction to Footprinting
- Types of Footprinting
- Domain and Subdomain Enumeration
- Passive Network Footprinting
- DNS Types and Footprinting Techniques

Module 6: Scanning and Enumeration
- Types of Scanning
- Introduction to Nmap and Its Scans
- Enumeration Fundamentals
- Introduction to Ports and Services

Module 7: System Hacking
- Online & Offline Password Attacks
- LM & NTLM Hashes
- Hash Cracking
- Password Recovery Tools
- Keyloggers

Module 8: Malware Threats
- Introduction to Malware
- Viruses and Worms

Module 9: Network Attacks
- Network Sniffing and Tools
- MITM Attacks
- MAC Spoofing
- Wireshark Basics and Filters

Module 10: Social Engineering
- Social Engineering Concepts and Techniques
- Attack Phases
- DoS/DDoS Introduction

Module 11: Denial-of-Service Attacks

- DoS and DDoS Attack Mechanisms

Module 12: Honeypots

- Introduction to Honeypots
- Installation and Configuration

Module 13: Hacking Web Servers

- Web Servers & Application Overview
- OWASP Top 10
- Encoding, SQL Injection, CSRF, XSS
- Command Injection
- Brute Force Attacks

Module 14: Hacking Wireless Networks

- Wireless Concepts & Terminology
- Wireless Encryption (WEP, WPA, WPA2)
- WEP Vulnerabilities
- MAC Spoofing
- WPA2 Attacks

Module 15: Cryptography

- Cryptography Basics
- Types and Algorithms
- Ciphers and Tools

Total Duration: 50 Hours