**MERSENNE CYBERCOUNSELLORS LLP**


**:Course Syllabus: Advance Cyber Security Programme**

**Course Overview:**
This 10-week intensive program is designed for cybersecurity professionals seeking to advance their skills and prepare for globally recognized certifications such as CISSP, CISM, CEH, OSCP, and CCSP. The course covers advanced cybersecurity concepts, risk management, ethical hacking, security operations, and cloud security, following industry best practices and frameworks.

**Course Details:**

- **Duration:** 10 Weeks
- **Fee:** ₹25,000
- **Mode:** Online/Offline (as applicable)
- **Prerequisites:** Strong understanding of networking and cybersecurity fundamentals
- **Certification:** Upon successful completion, participants will receive a certification from Mersenne Cybercounsellors LLP

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# Week 1: Cybersecurity Governance and Risk Management

- Introduction to Advanced Cybersecurity Concepts
- Security Governance, Risk Management, and Compliance (ISO 27001, NIST, CIS)
- Cyber Laws, Regulations, and Compliance Standards (GDPR, HIPAA, PCI-DSS)
- Security Policies and Frameworks for Enterprise Security

# Week 2: Network and Infrastructure Security

- Advanced Network Security Architecture and Defense Strategies
- Firewalls, IDS/IPS, VPNs, and Secure Network Design
- Zero Trust Architecture (ZTA) and Micro-Segmentation
- Threat Intelligence and Network Traffic Analysis

# Week 3: Ethical Hacking and Penetration Testing

- Introduction to Penetration Testing Methodologies
- Reconnaissance, Scanning, and Exploitation Techniques
- Web Application Security Testing (OWASP Top 10)
- Exploiting Vulnerabilities with Metasploit, Burp Suite, and Kali Linux

## Week 4: Security Operations and Incident Response

- Security Operations Center (SOC) and SIEM Integration
- Threat Hunting and Digital Forensics Fundamentals
- Incident Detection, Response, and Mitigation Strategies
- Hands-on with Threat Intelligence Platforms and EDR Solutions

## Week 5: Cloud Security and DevSecOps

- Introduction to Cloud Security (AWS, Azure, Google Cloud)
- Implementing Cloud Security Best Practices (CIS Benchmarks)
- Identity and Access Management (IAM) in Cloud Environments
- DevSecOps: Secure Development and CI/CD Pipeline Security

## Week 6: Malware Analysis and Reverse Engineering

- Understanding Malware Types and Attack Techniques
- Static and Dynamic Malware Analysis
- Reverse Engineering with IDA Pro and Ghidra
- Analyzing Ransomware and APT-Based Threats

## Week 7: Cryptography and Secure Communications

- Advanced Cryptographic Algorithms and Encryption Techniques
- Public Key Infrastructure (PKI) and Digital Signatures
- Secure Protocols (SSL/TLS, IPSec, SSH)
- Quantum Cryptography and Future Security Trends

## Week 8: Red Team vs. Blue Team Exercises

- Adversary Simulation and Attack Emulation
- Conducting Red Team Operations
- Blue Team Defense Strategies and Threat Mitigation
- Purple Team Collaboration and Continuous Improvement

## Week 9: Advanced Security Testing and Compliance Auditing

- Vulnerability Assessment and Risk Evaluation
- Security Auditing and Compliance Testing
- Penetration Testing Reporting and Documentation
- Preparing for Cybersecurity Certification Exams

# Week 10: Capstone Project and Certification Preparation

- Final Project: Simulated Cyberattack Defense Strategy
- Review of Key Concepts from CISSP, CEH, CISM, OSCP, and CCSP
- Mock Exams and Practice Questions
- Career Guidance and Certification Roadmap

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**Assessment & Certification:**

- Weekly quizzes and hands-on lab exercises
- Final capstone project evaluation
- Certification of Completion from Mersenne Cybercounsellors LLP

**Target Audience:**

- Cybersecurity professionals aiming for advanced certifications
- Security analysts, SOC teams, and ethical hackers
- IT managers, auditors, and compliance officers
- Professionals transitioning to advanced cybersecurity roles

**Learning Outcomes:**

- Develop expertise in advanced cybersecurity domains
- Gain practical experience in penetration testing and incident response
- Understand security governance, risk management, and compliance
- Prepare for internationally recognized cybersecurity certifications
- Master tools and techniques used by cybersecurity experts

For inquiries and enrollment,

contact us at  :   **7499076330**

email at   :   info.cybercounsellors@gmail.com