START coding TODAY

A PROVEN PATH TO GET A JOB IN 6 TO 8 MONTHS OR LESS

Shiva Concept solution ™

about Shiva concept solution

Shiva Concept Solution is the top software training center in Indore, India. Since 2013, we have taught more than 50,000 students with high-quality instruction.

ISO-certified and MSME-approved

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Cybersecurity Syllabus

Duration 3-4-months

Project Covered 2-Live Project

Module 1: Introduction to Cybersecurity

- What is cybersecurity?
- Importance of cybersecurity in today's world
- Common cyber threats & attack types (malware, phishing, ransomware, DDoS, APTs)
- Overview of cybersecurity domains (network, application, endpoint, cloud, data, identity)
- Cybersecurity laws & compliance (Indian IT Act, GDPR, PCI-DSS, HIPAA basics)

Module 2: Networking Fundamentals (for Security)

- OSI & TCP/IP models
- IP addressing, subnets, VLANs, NAT, routing basics
- Common protocols (HTTP/S, DNS, DHCP, FTP, SSH, SMTP, SNMP)
- Packet structure and analysis
- Basics of Wireshark & packet sniffing

Module 3: Operating System Security

- Windows architecture, processes, services, registry
- Linux architecture, file system, permissions
- User and group management (Windows + Linux)
- Hardening techniques (patching, updates, secure configurations)

Module 4: Network Security

- Firewalls, IDS/IPS, VPNs, proxies
- Network segmentation & zoning
- Secure wireless networks
- Intrusion detection & prevention systems
- Security monitoring basics

✅ **Tools:** pfSense, Snort, Suricata, Wireshark

Module 5: Web & Application Security

- Web app architecture basics (front-end, back-end, DB)

- Common web vulnerabilities (OWASP Top 10: SQLi, XSS, CSRF, SSRF, IDOR, RCE)
- Secure coding practices
- Code review & static analysis basics
- API security basics

✅ **Tools:** Burp Suite, OWASP ZAP, Postman, Nikto

Module 6: Cryptography

- Basics of encryption & decryption (symmetric, asymmetric)
- Hashing & digital signatures
- SSL/TLS, HTTPS
- Public Key Infrastructure (PKI)
- VPN encryption protocols (IPSec, OpenVPN)

✅ **Tools:** OpenSSL, GPG, Hashcat

Module 7: Identity & Access Management (IAM)

- Authentication vs Authorization
- MFA (Multi-Factor Authentication)
- Role-Based Access Control (RBAC), Least Privilege
- LDAP, SSO, Active Directory basics
- Privileged Access Management (PAM)

Module 8: Cloud Security

- Shared responsibility model (AWS, Azure, GCP)
- Securing cloud workloads & services (EC2, S3, IAM, Lambda, CloudTrail)
- Cloud access & identity management
- Container security (Docker, Kubernetes basics)
- Cloud security tools (Cloud Security Posture Management)

✅ **Tools:** AWS Security Hub, Prisma Cloud, Azure Security Center

Module 9: Endpoint Security

- Antivirus, EDR (Endpoint Detection & Response)
- Endpoint hardening (Windows, Linux, macOS)
- Mobile device management (MDM)
- Patch & vulnerability management

✅ **Tools:** CrowdStrike, SentinelOne, Microsoft Defender

Module 10: Vulnerability Assessment & Penetration Testing (VAPT)

- Vulnerability scanning lifecycle
- Manual vs automated testing
- Network & web app pen testing basics

- Exploitation & post-exploitation
- Reporting & remediation

✅ **Tools:** Nessus, Nmap, Metasploit, Burp Suite, Nikto, SQLmap

Module 11: Security Operations & Incident Response (SOC & IR)

- Understanding SOC roles & tiers
- SIEM basics (log management, alerts, dashboards)
- Incident response process (preparation, detection, containment, eradication, recovery, lessons learned)
- Threat hunting basics
- Digital forensics (memory, disk, network forensics)

✅ **Tools:** Splunk, ELK Stack, QRadar, AlienVault OSSIM

Module 12: Governance, Risk, and Compliance (GRC)

- Risk assessment & management
- Security policies & frameworks (ISO 27001, NIST, CIS)
- Business continuity & disaster recovery (BC/DR)
- Compliance audits & reporting

🌟 Capstone Projects

✔ Perform a vulnerability assessment on a simulated network
✔ Conduct a penetration test on a vulnerable web app
✔ Configure and monitor a SIEM tool with custom alerts
✔ Write an incident response report for a simulated cyberattack
✔ Cloud security audit (AWS/Azure environment)

✅ Recommended Certifications (Align to Jobs)

- **Beginner/Intermediate:**
  - CompTIA Security+
  - EC-Council CEH (Certified Ethical Hacker)
  - Microsoft SC-900 (Security, Compliance, Identity Fundamentals)
- **Advanced:**
  - CompTIA CySA+
  - OSCP (Offensive Security Certified Professional)
  - AWS Certified Security – Specialty
  - CISSP (for experienced professionals)

🛠️ Key Tools & Platforms Covered

- Wireshark
- Nmap, Nessus
- Metasploit, Burp Suite, OWASP ZAP
- Splunk, ELK Stack

- AWS/Azure Security Tools
- GitHub (for security scripts)

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