

Cybersecurity & Secure Coding

A. Security Fundamentals

1. **Types of Attacks**
 - Malware
 - Phishing
2. **CIA Triad**
 - Confidentiality
 - Integrity
 - Availability

Output: Threat analysis report

B. Secure Coding

1. **Input Validation**
 - Sanitization
2. **OWASP Top-10**
 - SQL injection
 - XSS
3. **Code Hardening**
 - Safe data handling

Output: Secure code rewrite task

C. Ethical Hacking Basics

1. **Kali Linux Tools**
 - Nmap
 - Burp Suite
2. **Scanning & Enumeration**
 - Network scanning
 - Vulnerability checks

Output: Vulnerability test

D. Network Security

1. **Firewalls**
 - Rules & filtering
2. **VPN Concepts**
 - Tunneling
 - Encryption

Output: Network security diagram

E. Application Security

1. API Security

- JWT
- OAuth

2. Authorization Models

- RBAC

Output: Secure API module