Week 1: Introduction to Cybersecurity

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Year: III Year

Program: B.Tech. Computer Science and Engineering

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Summary of Learning Content:

- Cybersecurity means protecting systems, networks, and data from digital threats like unauthorized access or cyberattacks.
- It is a multidisciplinary field with 8+ domains and 25+ subdomains including offensive, defensive, cloud, forensics, legal, and governance areas.

Key Domains in Cybersecurity:

- Red Team (Offensive Security)
 - - Simulates real cyberattacks
 - - Includes penetration testing, exploit development, social engineering
- Blue Team (Defensive Security)
 - - Detects and responds to threats in real-time
 - - Uses SIEM, threat intelligence, incident response
- DevSecOps & Cloud Security
 - - Builds security into development pipelines
 - - Focuses on securing AWS, Azure, GCP
- GRC (Governance, Risk & Compliance)
 - - Deals with policies, risk assessments, compliance (GDPR, ISO 27001)
- Cybersecurity Law & Policy
 - - Covers data privacy laws and cybercrime regulations
- Security Awareness & Training
 - - Focuses on phishing simulations, gamified training, user education

2 Subdomains & Topics

- Red Team Tools:
 - - Web app security, mobile security, social engineering, physical security
- Blue Team Tools:
 - - SOC & threat monitoring, EDR/XDR, log analysis, IAM, patch management

2 Common Myths Busted:

- You don't need to be a coding expert
- Cybersecurity is not only hacking
- A specific degree isn't required
- Expensive certifications aren't necessary to start

Platforms and Resources Mentioned:

- Training: TryHackMe, HackTheBox, PicoCTF, Pwn College, Bandit Labs, Udemy
- Bug Bounties & CTFs: HackerOne, BugCrowd, CTFtime
- Communities: Instagram, GitHub, Telegram, LinkedIn