Cyber Security Internship – Task 1

What I Learned About Cybersecurity & Attack Surface

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Course: B.E (Final Year)

Date: 15/01/2026

- **Introduction**

Cybersecurity is about protecting our data and systems from hackers.

We use the internet every day for banking, chatting, and studying.

If security is weak, our information can be stolen.

So cybersecurity is important to keep our data safe.

- **CIA Triad**
  - **Confidentiality**

    Data should be seen only by the right people.

    Passwords and private messages must stay secret.

  - **Integrity**

    Data should not be changed without permission.

    Marks and bank balances must stay correct.

  - **Availability**

    Systems should work when we need them.

    Websites and apps should not go down.

- **Types of Hackers**

1. **Script kiddies** use

   tools for fun.

2. I**nsiders** misuse their access.
3. **Hacktivists** attack for political reasons.
4. **Nation-state** hackers work for governments.

❖ **Attack Surface**

An attack surface is where hackers can enter.

Websites, apps, and networks are attack surfaces.

More entry points mean more risk.

❖ **OWASP Top 10**

OWASP shows common website security problems.

These include SQL injection and weak logins.

Hackers use these issues to steal data.

❖ **Data Flow**
- **User > Apps > Server > Database**

Data flows from the **user** to the **application**, then to the **server** and **database**.

Attacks can occur during transmission, authentication, or storage.

❖ **Vulnerability, Threat, and Risk**
- A **vulnerability** is a weakness.
- A **threat** is a hacker.
- **Risk** is the chance of attack.

❖ **Daily Apps and Risks**
- Gmail has login risks.
- WhatsApp has message risks.
- Banking apps have payment risks.
- College portals have data risks.

❖ **Importance of Cybersecurity**
- Cybersecurity protects our money and data.
- It keeps our privacy safe.
- It prevents online attacks.

❖ **Conclusion**
- Cybersecurity helps protect systems and users.
- The CIA Triad explains basic security rules.
- Attack surfaces show where attacks happen.