

# **Module 1 : Introduction To Cybersecurity**

## **1. what is meaning of cyber security**

**ANS:** Cyber Security means protecting computers, networks, servers, and data from unauthorized access, attacks, or damage. It involves tools, technologies, and practices that secure digital systems and information from hackers, malware, and cyber threats.

## **2.what are the main objectives of cyber security?**

**ANS:** The five main objectives are:

- a) Confidentiality – Keeping information secret (only authorized users can access).
- b) Integrity – Ensuring data is accurate and unaltered.
- c) Availability – Systems and data are available when needed.
- d) Authentication – Verifying the identity of users.
- e) Non-repudiation – Ensuring that actions cannot be denied later.

## **3.What is offensive and defensive in cyber security?**

**ANS:**

### **Offensive Cyber Security:**

- Focuses on attacking or simulating attacks to find vulnerabilities before hackers do.
- Examples: Ethical hacking, penetration testing, red teaming.

### **Defensive Cyber Security:**

- Focuses on protecting systems from attacks.
- Examples: Firewalls, antivirus, intrusion detection, monitoring.

## **4. what is cyberspace and law**

**ANS:**

### **Cyberspace:**

- The virtual environment where communication over computer networks happens (Internet, websites, apps, emails, etc.).

### **Cyber Law:**

- The set of laws and regulations that govern activities in cyberspace — such as data protection, online fraud, hacking, and privacy.
- In India, the IT Act 2000 is the main cyber law.

## **5. What is cyber welfare?**

**ANS:** Cyber welfare means ensuring digital safety and well-being of people online.

It focuses on:

- Creating awareness about cyber threats.
- Promoting safe internet practices.
- Supporting victims of cybercrime.
- Encouraging responsible digital behavior

## **6.Explain the Types of Hacker**

**ANS:**

**White Hat Hacker:** These are ethical hackers – find and fix security loop holes legally

**Black Hat Hacker:** These are unethical hackers -break into systems illegally

**Gray Hat Hacker:** may hack without permission but not for bad intent.

## **7.What is the full form of SOC in cyber security**

**ANS:** SOC = Security Operations Center

## **8.What are the Challenges of Cyber Security**

**ANS:**

- Increasing number of cyber attacks.
- Lack of skilled cyber professionals.
- Rapidly evolving technologies.
- Insider threats.
- Data privacy and compliance issues.
- Phishing and social engineering.
- Managing cloud and IoT security.