**Module 1 CS- Introduction**

**1 what is meaning of cyber security**

**ANS: Cybersecurity refers to the practice of protecting computers network devices and data from cyber threats such as hacking malware phishing and data breaches it involves implementing security measures policies and technology to prevent unauthorized access data loss or damage cybersecurity is essential for individuals businesses and governments to safeguard sensitive information and ensure digital safety.**

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

**ANS: Cyber security is to ensure secure storage, control access, and prevent unauthorized processing, transfer, or deletion of data, confidentiality, integrity, availability, authentication, non- repudiation accountability cyber threats like hacking malware data breaches and cyber espionage.**

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

**ANS: in cybersecurity offensive refers to proactively identifying and exploiting vulnerabilities in a system by simulating attacks, often through penetration testing to find weaknesses before malicious actors do while defensive focuses on implementing security measures to protect systems and data from actual attacks by actively monitoring and responding to threats once they are detected.**

**4.what is cyberspace and low**

**ANS: Cyberspace refers to the digital and virtual environment her communication data exchange and online activities occur it includes the internet and private networks computers servers and cloud systems digital transaction communication and ware and cyberwarfare Low- level security, low- level attack, low-level programming, low-impact threats**

**5. What is cyber welfare?**

**ANS: Cyber warfare is the use of cyber attacks to damage or disrupt an enemy’s computer systems and information networks, computer viruses, denial-of-service attacks, social engineering, attacking the power grid, cyber warfare is a growing threats as countries rely more on digital infrastructure many governments now have dedicated cyber military units to both defend and launch cyber operations.**

**6.Explain the Types of Hacker**

**ANS: A hacker can refer to someone who uses their technical skills to gain unauthorized access to, white hat ethical, black hat malicious, and grey hat somewhere in between, other types include script kiddies inexperienced hackers using prewritten tools, hacktivists, ethical hackers, malware, social engineering, red hat hackers, green hat hackers.**

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

**ANS: A SOC security operations center or SOC is a team of IT security professionals that protects the organization by monitoring detecting analyzing and investigating cyber threats it’s a centralized unit that monitors detects and responds to cyber threats, SOCs are responsible for protecting an organization IT infrastructure and data.**

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

**ANS: Cybersecurity faces several challenges due to evolving threats increasing attack surfaces and a shortage of skilled professionals, Ransomware, phishing, supply chain vulnerabilities, insider attacks, internet of things, AI attacks, Cryptojacking, data breaches, malware, social engineering, advanced persistent threat, software vulnerabilities.**