# Cyber Security Assignment 2

## 1. What are the three goals of cyber security?

The three main goals of cybersecurity are:

1. Confidentiality – Keeping information secret so only the right people can access it.

2. Integrity – Ensuring that data is accurate and has not been changed by hackers.

3. Availability – Making sure that information and systems are available when needed.

## 2. Explain social engineering as a form of security breach.

Social engineering is when hackers trick people into giving away sensitive information, like passwords. Instead of hacking computers, they manipulate people through phone calls, fake emails, or messages to steal personal data.

## 3. What is MFA?

MFA (Multi-Factor Authentication) is a security method that requires users to verify their identity in multiple ways before accessing an account. For example, after entering a password, you may also need to enter a code sent to your phone. This makes it harder for hackers to break in.

## 4. What is the difference between symmetric and asymmetric key encryption?

Encryption is a way to protect data by converting it into a secret code. There are two types:

1. Symmetric Encryption – Uses one key to both lock and unlock the data. It is fast but less secure.

2. Asymmetric Encryption – Uses two keys: one to lock (public key) and another to unlock (private key). This is more secure but slower.

## 5. What's a hashing function?

A hashing function converts data into a unique fixed-length code. It is used for security purposes, like storing passwords safely. Even a small change in data creates a completely different hash, making it useful for verifying data integrity.