



**SNS COLLEGE OF TECHNOLOGY**  
**Coimbatore-35**  
**An Autonomous Institution**



Accredited by NBA – AICTE and Accredited by NAAC – UGC with  
'A+' Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University,  
Chennai

**19ECT301-COMMUNICATION NETWORKS**  
**III YEAR/ V SEMESTER**

**UNIT 4- NETWORK & DATA SECURITY**

**TOPIC 1- INTRODUCTION TO CRYPTOGRAPHY**



# INTRODUCTION



**Cryptography is the study of secure communications techniques that allow only the sender and intended recipient of a message to view its contents.** The term is derived from the Greek word *kryptos*, which means hidden.



# TYPES OF CRYPTOGRAPHY



Cryptography can be broken down into three different types:

- Secret Key Cryptography.
- Public Key Cryptography.
- Hash Functions.



# PRINCIPLE OF CRYPTOGRAPHY



**Data Confidentiality, Data Integrity, Authentication and Non-repudiation** are core principles of modern-day cryptography



# KEY PILLARS OF CRYPTOGRAPHY



## There are five pillars of cryptology:

**Confidentiality:** keep communication private.

**Integrity:** detect unauthorized alteration to communication.

**Authentication:** confirm identity of sender.

**Authorization:** establish level of access for trusted parties.

**Non-repudiation:** prove that communication was received.



# FUNCTIONS OF CRYPTOGRAPHY



- Key Generation and Exchange Functions.**
- Object Encoding and Decoding Functions.**
- Data Encryption and Decryption Functions.**
- Hash and Digital Signature Functions.**



THANK YOU