

# A Research Paper on Cryptography

Neha<sup>1</sup>, Jhanvi Singh<sup>2</sup>, Dr. Vimmi Malhotra<sup>3</sup>

Students, Department of Computer Science and Engineering<sup>1,2</sup>

Professor, Department of Computer Science and Engineering<sup>3</sup>

Dronacharya College of Engineering, Gurugram, India

**Abstract:** *Cryptography is a fundamental aspect of modern information security, encompassing techniques for securing communication and data privacy. This abstract provides an overview of cryptographic principles and applications. The primary goal of cryptography is to enable secure communication over insecure channels. It achieves this by employing mathematical algorithms and protocols to encrypt plaintext into ciphertext, rendering it unintelligible to unauthorized parties. Key cryptographic concepts include encryption, decryption, key management, and cryptographic protocols. Several cryptographic algorithms, including symmetric-key cryptography and public-key cryptography. Symmetric-key algorithms use a single secret key for both encryption and decryption, offering efficiency but requiring secure key distribution. Public-key cryptography, in contrast, utilizes a pair of keys: a public key for encryption and a private key for decryption, enabling secure communication without pre-shared secrets.*

**Keywords:** Cryptography, Encryption, Decryption, Symmetric Key Cryptography, Public-Key Cryptography

## REFERENCES

- [1]. <https://en.wikipedia.org/wiki/Cryptography>
- [2]. [https://www.tutorialspoint.com/cryptography/cryptography\\_tutorial.pdf](https://www.tutorialspoint.com/cryptography/cryptography_tutorial.pdf)
- [3]. <https://www.techopedia.com/definition/1773/decryption>