

# Cryptography Foundations

Cryptography · Answer Key · 10 Questions

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**1. Which ancient Roman leader is credited with creating a simple substitution cipher where each letter is shifted three positions down the alphabet?**

- A) Julius Caesar**
- B) Augustus Caesar
- C) Marcus Aurelius
- D) Nero

**2. What is the specific name for a cryptographic tool consisting of two concentric disks with alphabets used to simplify polyalphabetic substitution?**

- A) The Enigma Machine
- B) The Alberti Cipher Disk**
- C) The Vigenere Square
- D) The Scytale

**3. During World War II, what was the primary purpose of the 'Bombe' machine developed by Alan Turing and his team?**

- A) To send secret radio signals
- B) To calculate artillery trajectories
- C) To decrypt Enigma-encrypted messages**
- D) To jam enemy radar frequencies

**4. In cryptography, what is the term for the original, readable message before it has been transformed into a secret code?**

- A) Ciphertext
- B) Key
- C) Algorithm
- D) Plaintext**

**5. What is a 'frequency analysis' technique used by cryptanalysts to break simple substitution ciphers?**

- A) Measuring the speed of encryption
- B) Counting how often each letter appears**
- C) Testing every possible password
- D) Using light to scan codes

**6. Which famous 19th-century author and poet wrote a short story titled 'The Gold-Bug' which features a plot centered on solving a complex substitution cipher?**

**A) Edgar Allan Poe**

B) Mark Twain

C) Charles Dickens

D) Lewis Carroll

**7. What type of cryptographic system uses two different keys--one for encryption and one for decryption--known as a public and private key?**

A) Symmetric encryption

**B) Asymmetric encryption**

C) Steganography

D) Polyalphabetic cipher

**8. The 'Scytale' was an ancient Greek device used for encryption. How did it work?**

A) By rotating a hidden inner wheel

**B) By wrapping a strip of parchment around a rod**

C) By using invisible ink that required heat

D) By substituting letters based on a grid

**9. What is the field of hiding a secret message inside a non-secret file, such as embedding text inside an image, called?**

**A) Steganography**

B) Cryptography

C) Hashing

D) Decryption

**10. Which mechanical device used during the 1920s to 1940s utilized a series of rotating rotors to scramble letters into a complex ciphertext?**

**A) The Enigma Machine**

B) The Abacus

C) The Telegraph

D) The Typewriter