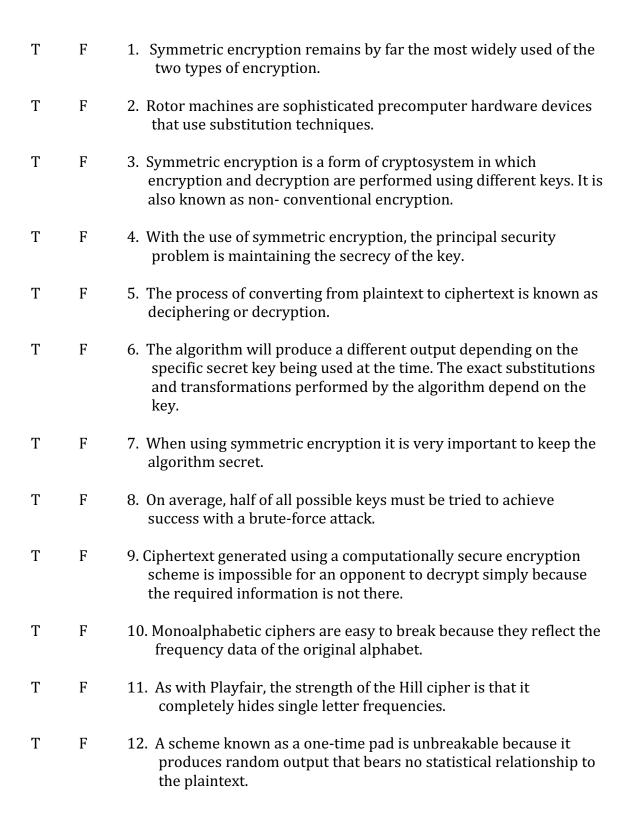
## **CHAPTER 2: CLASSICAL ENCRYPTION TECHNIQUES**

## TRUE OR FALSE



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Т	F	13. The one-time pad has unlimited high-bandwidth channels requ	1 1			
T	F	14. The most widely used cipher is	s the Data Encryption Standard.			
Т	F	15. Steganography renders the mediations of the	ssage unintelligible to outsiders by text.			
MULTIPLE CHOICE						
1.	eleme		nts (characters, bits) into ciphertext			
		A) Transposition	B) Substitution			
		C) Traditional	D) Symmetric			
2.	Joseph Mauborgne proposed an improvement to the Vernam cipher that uses a random key that is as long as the message so that the key does not need to be repeated. The key is used to encrypt and decrypt a single message and then is discarded. Each new message requires a new key of the same length as the new message. This scheme is known as a(n)					
		A) pascaline	B) one-time pad			
		C) polycipher	D) enigma			
3.		An original intelligible message fed into the algorithm as input is known as, while the coded message produced as output is called the				
		A) decryption, encryption	B) plaintext, ciphertext			
		C) deciphering, enciphering	D) cipher, plaintext			
4.	Restor	Restoring the plaintext from the ciphertext is				
		A) deciphering	B) transposition			
		C) steganography	D) encryption			

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5.	A attack involves trying every possible key until an intelligib translation of the ciphertext is obtained.			
	A) brute-force	B) Caesar attack		
	C) ciphertext only	D) chosen plaintext		
6.	Techniques used for deciphering a menciphering details is	essage without any knowledge of the		
	A) blind deciphering	B) steganography		
	C) cryptanalysis	D) transposition		
7.	7. The takes the ciphertext and the secret key and produce original plaintext. It is essentially the encryption algorithm run in			
	A) Voronoi algorithm	B) decryption algorithm		
	C) cryptanalysis	D) diagram algorithm		
8. If both sender and receiver use the same key, the system is ref		ame key, the system is referred to as:		
	A) public-key encryption	B) two-key		
	C) asymmetric	D) conventional encryption		
9.		_ attacks exploit the characteristics of the algorithm to attempt to a specific plaintext or to deduce the key being used.		
	A) Brute-force	B) Cryptanalytic		
	C) Block cipher	D) Transposition		
10. The was used as the standard field system by the British Army i World War I and was used by the U.S. Army and other Allied forces durin World War II.				
	A) Caesar cipher	B) Playfair cipher		
	C) Hill cipher	D) Rail Fence cipher		

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	11. The attack is the easiest to defend against because the opponent has the least amount of information to work with.			
	A) ciphertext-only	B) chosen ciphertext		
	C) known plaintext	D) chosen plaintext		
12	refer to common two-letter com	binations in the English language.		
	A) Streaming	B) Transposition		
	C) Digrams	D) Polyalphabetic cipher		
13. A way to improve on the simple monoalphabetic technique is to use different monoalphabetic substitutions as one proceeds through the plaintext message. The general name for this approach is				
	A) rail fence cipher	B) cryptanalysis		
	C) polyalphabetic substitution ciph	ner D) polyanalysis cipher		
14. A technique referred to as a is a mapping achieved by performing some sort of permutation on the plaintext letters.				
	A) transposition cipher	B) polyalphabetic cipher		
	C) Caesar cipher	D) monoalphabetic cipher		
15. The methods of conceal the existence of the message in a graphic image.				
	A) steganography	B) decryptology		
	C) cryptology	D) cryptography		
SHORT ANSWER				
	ncryption is a form of cryptosystem re performed using the same key.	in which encryption and		
2. A technique for hiding a secret message within a larger document or picture in such a way that others cannot discern the presence or contents of the hidden message is				

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3. An encryption scheme is said to be if the cost of breaking the cipher exceeds the value of the encrypted information and the time required to break the cipher exceeds the useful lifetime of the information.
4. The two types of attack on an encryption algorithm are cryptanalysis based on properties of the encryption algorithm, and which involves trying all possible keys.
5. Cryptographic systems are characterized along three independent dimensions: The type of operations used for transforming plaintext to ciphertext; The way in which the plaintext is processed; and
6. All encryption algorithms are based on two general principles: substitution and
7. One of the simplest and best known polyalphabetic ciphers is cipher. In this scheme, the set of related monoalphabetic substitution rules consists of the 26 Caesar ciphers with shifts of 0 through 25. Each cipher is denoted by a key letter which is the ciphertext letter that substitutes for the plaintext letter a.
8. A cipher processes the input one block of elements at a time producing an output block for each input block whereas a cipher processes the input elements continuously producing output one element at a time.
9. An encryption scheme is secure if the ciphertext generated by the scheme does not contain enough information to determine uniquely the corresponding plaintext, no matter how much ciphertext is available.
10. The earliest known and simplest use of a substitution cipher was called the cipher and involved replacing each letter of the alphabet with the letter standing three places further down the alphabet.
11. The best known multiple letter encryption cipher is the which treats digrams in the plaintext as single units and translates these units into ciphertext digrams.
12. The task of making large quantities of random keys on a regular basis and distributing a key of equal length to both sender and receiver for every message sent are difficulties of the scheme.
13. The simplest transposition cipher is the technique in which the plaintext is written down as a sequence of diagonals and then read off as a sequence of rows.

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14. The most widely used cipher ever is the
15. The consist of a set of independently rotating cylinders through which electrical pulses can flow. Each cylinder has 26 input pins and 26 output pins with internal wiring that connects each input pin to a unique output pin.