

UNIT-I

**Part – A (Short Answer Questions)**

S.No	Questions	BT	CO	PO
1	Define network security.	L1	CO1	PO1
2	What are the principles of information security?	L1	CO1	PO1
3	What is confidentiality?	L1	CO1	PO1
4	Define integrity in information security.	L1	CO1	PO2
5	What is authentication?	L1	CO1	PO1
6	Differentiate between active and passive attacks.	L1	CO1	PO3
7	What are security services?	L1	CO1	PO1
8	Define cryptography.	L1	CO1	PO1
9	What is symmetric key cryptography?	L1	CO1	PO3
10	What is steganography?	L1	CO1	PO2

**Part – B (Long Answer Questions)**

1	Explain the principles of information security and security attacks in detail.	L2	CO1	PO5
2	Describe the OSI security architecture with suitable examples.	L2	CO1	PO3
3	Explain various security services and mechanisms.	L2	CO1	PO2
4	Discuss classical encryption techniques with examples.	L2	CO1	PO3
5	Explain substitution and transposition techniques in cryptography.	L2	CO1	PO3
6	Explain Feistel Cipher Structure and its significance in modern cryptography.	L2	CO1	PO2
7	Explain block cipher modes of operation (ECB, CBC, CFB, OFB, CTR) with examples.	L2	CO1	PO3
8	Analyze the strengths and weaknesses of symmetric key cryptography in modern networks.	L2	CO1	PO5
9	Explain classical encryption techniques such as Caesar Cipher, Playfair Cipher, Hill Cipher, and Vigenère Cipher.	L1	CO1	PO1
10	Discuss cryptanalysis and brute-force attacks on symmetric key algorithms.	L2	CO1	PO2