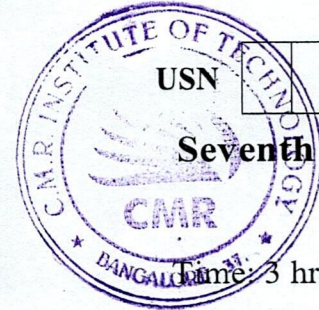


# CBCGS SCHEME

BAD703



USN

Seventh Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026

## Data Security and Privacy

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1				M	L	C
Q.1	a.	Explain the model for network security with a neat diagram.	10	L2	CO1	
	b.	What is Steganography? Describe different methods with examples.	10	L2	CO1	
<b>OR</b>						
Q.2	a.	Explain the play fair cipher encryption and decryption process with an example.	10	L2	CO1	
	b.	Discuss various substitution techniques used in classical encryption.	10	L2	CO1	
<b>Module – 2</b>						
Q.3	a.	Explain the principles of public-key cryptosystem with a neat diagram.	10	L2	CO2	
	b.	Write a short note on public key cryptanalysis.	6	L2	CO2	
	c.	Illustrate the security features of ECC with examples.	4	L2	CO2	
<b>OR</b>						
Q.4	a.	Explain the Diffie-Hellman key exchange algorithm with an example and diagram.	10	L2	CO2	
	b.	How does the Man-in-the Middle attack affect Diffie-Hellman? Explain.	6	L2	CO2	
	c.	What is the role of a Pseudo Random Number Generator (PRNG) in cryptography?	4	L2	CO2	
<b>Module – 3</b>						
Q.5	a.	Describe key management fundamentals with neat diagram.	10	L2	CO3	
	b.	Explain the governing aspects of key management.	10	L2	CO3	
<b>OR</b>						
Q.6	a.	Discuss the key generation, establishment and storage methods.	10	L2	CO3	
	b.	Explain the importance of key usage and storage in cryptosystems.	10	L2	CO3	

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Module – 4						
Q.7	a.	Explain web security considerations.	8	L2	CO4	
	b.	Illustrate the working of Transport Layer Security (TLS).	6	L2	CO4	
	c.	What is a Security Parameters Index (SPI) in IP security?	6	L2	CO4	
<b>OR</b>						
Q.8	a.	Describe the IP security overview and the need for IP security policies.	8	L2	CO4	
	b.	What is Encapsulating Security Payload (ESP)? Explain its purpose.	6	L2	CO4	
	c.	Illustrate the role and phases of Internet Key Exchange (IKE) protocol.	6	L2	CO4	
<b>Module – 5</b>						
Q.9	a.	Discuss various data hiding techniques in text.	10	L2	CO5	
	b.	Explain the LSB (Least Significant Bit) encoding technique with a suitable example.	10	L2	CO5	
<b>OR</b>						
Q.10	a.	Explain watermarking and its intuitive and digital methods.	10	L2	CO5	
	b.	Illustrate the process of data hiding in text using innocuous text techniques.	10	L2	CO5	

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