

CBCS SCHEME

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BAD703

Seventh Semester B.E./B.Tech. Degree Examination, June / July 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 Caesar Cipher with suitable example.	10	L2	CO1
	b.	Discuss Fiestal encryption and decryption algorithm with neat diagram.	10	L2	CO1

OR

Q.2	a.	Explain Playfair Cipher Algorithm and apply its rules for the following example : Key = "MONARCHY", Plaintext = "ATTACK" to get the cipher text.	10	L2	CO1
	b.	Describe the working of DES encryption algorithm with neat diagram.	10	L2	CO1

Module – 2

Q.3	a.	Explain the description of RSA algorithm. Assume 2 prime numbers as $p = 3$ and $q = 11$, encryption key $e = 7$. Apply RSA algorithm and find cipher text for the plaintext $m = 31$ and decrypt the cipher text to obtain plain text.	10	L2	CO2
	b.	Define Pseudorandom Number Generator. List and explain two types of pseudorandom number generators with example.	10	L2	CO2

OR

Q.4	a.	Explain the Diffie – Hellman Key exchange algorithm with an example and diagram.	10	L2	CO2
	b.	Briefly explain Elliptic Curve Cryptography algorithm.	10	L2	CO2

Module – 3

Q.5	a.	Describe the different stages involved in key lifecycle and fundamentals of key management requirements.	10	L2	CO3
	b.	Explain different key establishment techniques.	10	L2	CO3

OR

Q.6	a.	Explain public key management with certification process.	10	L2	CO3
	b.	Describe alternative approaches to public –key management.	10	L2	CO3

Module – 4

Q.7	a.	Explain Authentication Header (AH) and Encapsulating Security Ployload [ESP] .	10	L2	CO4
	b.	Describe the main elements of IP security architecture.	10	L2	CO4

OR

Q.8	a.	Explain Internet Key Exchange [IKE] phase in detail.	10	L2	CO4
	b.	Describe transport layer security mechanisms.	10	L2	CO4

Module – 5

Q.9	a.	Explain data hiding techniques in text in detail.	10	L2	CO5
	b.	Briefly explain Digital Watermarking Methods and applications.	10	L2	CO5

OR

Q.10	a.	Discuss Image Steganography using LSB encoding.	10	L2	CO5
	b.	Explain BPCS Steganography with neat illustration.	10	L2	CO5

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