R22 Regulation *Subject code:4P7GB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VII Semester Regular Examinations, November 2025

INFORMATION SECURITY

(CSE(AI&ML))

Maximum Marks: 60 Date: 28.11.2025 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	What are the types of security attacks?	1M	1	L-I
b)	What is meant by risk and threat in security?	1M	1	L-I
c)	Compare block ciphers with stream ciphers.	1M	2	L-II
d)	What is the purpose of substitution and permutation in block ciphers?	1M	2	L-I
e)	What is a digital signature?	1M	3	L-I
f)	How does a MAC differ from a hash function?	1M	3	L-I
g)	What are the major web security considerations?	1M	4	L-I
h)	What are the main goals of SSL?	1M	4	L-I
i)	What are the different types of intruders?	1M	5	L-I
j)	What is the importance of password security?	1M	5	L-I

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) What is the need for security? b) Explain the model of network security.	5M 5M	1 1	L1 L2
	OR			
3	a) What are the advantages of steganography comparing with cryptography? b) Discuss in detail about various types of Security attacks with neat diagrams.	5M 5M	1 1	L1 L6
4	a) Explain the AES algorithm with suitable examples b) Explain the DES algorithm with suitable examples.	5M 5M	2 2	L2 L2
	OR			
5	a) Outline briefly about RC4. b) What is Elliptic Curve Cryptography (ECC)? Discuss ECC algorithm with neat diagram.	5M 5M	2 2	L2 L1
6	a) Explain HMAC algorithm. b) List various Hash Functions. Discuss secure hash algorithm with suitable examples.	5M 5M	3 3	L2 L1

	OR			
7	a) Summarize briefly about Kerberos. b) What are the requirements of Authentication?	5M 5M	3 3	L2 L1
8	a) Explain MIME context types. b) Discuss in detail about secure electronic transaction.	5M 5M	4 4	L2 L6
	OR			
9	a) Discuss about different services provided by Pretty Good Privacy (PGP). b) Discuss the need of Secure Socket Layer.	5M 5M	4 4	L6 L6
10	a) Explain password management. b) Develop IP Security architecture with neat diagram.	5M 5M	5 5	L2 L6
	OR			
11	a) Discuss in detail encapsulating security payload. b) What is Intrusion? Discuss Intrusion detection system with neat diagram.	5M 5M	5 5	L6 L1