R20 Regulation *Subject code: 3P7FB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, November 2025

INFORMATION SECURITY

(IT)

Maximum Marks: 70 Date: 26.11.2025 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 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 (10X2M=20 Marks)		Marks	CO	BTL
1	What is Cryptography and Cryptanalysis?	2M	1	L1
2	What is steganography?	2M	1	L1
3	What is the main difference between DES and AES?	2M	2	L1
4	Define linear cryptanalysis.	2M	2	L1
5	What is threat assessment	2M	3	L1
6	What is message authentication?	2M	3	L1
7	Explain IP Security.	2M	4	L1
8	Write a short note on Key Exchange.	2M	4	L1
9	What are the three classes of intruders?	2M	5	L1
10	What are parameters of session state?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	a) Discuss in detail the OSI Security Architecture highlighting the attacks, mechanisms and services. b) Explain security attacks in detail?	5M 5M	1	L2
	OR			
12	a) Explain hill cipher with example b) Make a clear difference between transposition & substitution techniques with examples?	5M 5M	1	L2
13	a) Explain key distribution. b) Distinguish between DES and AES?	5M 5M	2	L2
	OR			
14	How can the DES algorithm be applied to secure data transmission? Explain the key steps involved in the DES encryption process.	10M	2	L2
15	Discuss the requirements of Kerberos. Explain the Kerberos ver-4 message exchanges.	10M	3	L2
	OR			
16	Explain SHA algorithm with suitable example.	10M	3	L2

17	Explain in detail about PGP and S/MIME.	10M	4	L2
	OR			
18	a) Discuss authentication, header and ESP in detail with their packet format b) Write the steps involved in the simplified form of the SSL / TLS protocol.	5M 5M	4	L2
19	Draw and discuss the Architecture of IPSec.	10M	5	L2
	OR			
20	What is IP security and explain in detail IP security architecture	10M	5	L2