R20 Regulation *Subject code: 3P7FB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, May 2026

INFORMATION SECURITY

(IT)

Maximum Marks: 70 Date: 07.05.2026 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	Define masquerade.	2M	1	L1
2	What is plain text & cipher text.	2M	1	L1
3	What is the use of Simplified DES?	2M	2	L1
4	Specify the applications of the public key cryptosystem.	2M	2	L1
5	How digital signature is different from conventional?	2M	3	L1
6	List the properties of hash function.	2M	3	L1
7	Name any four cryptographic keys used in PGP.	2M	4	L1
8	Define S/MIME.	2M	4	L1
9	What' is virus in information security?	2M	5	L1
10	What is Secure Socket Layer?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Illustrate various substitution techniques with suitable examples.	10M	1	L2
	OR			
12	a) Consider the following: Plaintext: 'PROTOCOL" Secret key: WORK" What is the corresponding cipher text using play fair cipher method? b) What is symmetric key cryptography Discuss its advantages and limitations?	5M 5M	1	L2
13	In an RSA system, the public key of a given user is e=31, n=3599. What is the private key of this user?	10M	2	L2
	OR			
14	Demonstrate RSA algorithm with suitable examples.	10M	2	L2
15	a) List the differences between Kerberos version 4 and 5. b) What is HMAC and what are its advantages over MAC?	5M 5M	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) How do you secure electronic transaction? Explain. b) What is Transport Layer Security and how does it work?	5M 5M	4	L2
19	a) What is firewall? Explain different types of firewalls. b) Explain secure electronic transaction.	5M 5M	5	L2
	OR			
20	What is IP security and explain in detail IP security architecture.	10M	5	L2