



R20 Regulation

Subject code: 3P4HB

# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

## B.Tech IV Semester Regular Examinations, July 2022

### INFORMATION SECURITY

(CSE (DATA SCIENCE))

Maximum Marks: 70

Date: 26.07.2022 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 which carries 10M.
  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)

- 1 Which three important concepts are defined in OSI security architecture?
- 2 What are the techniques used in cryptography?
- 3 Compare DES vs AES
- 4 What is RSA algorithm in information security?
- 5 Give the 3 main properties of hash function?
- 6 What is digital signature and its types?
- 7 Define web security and why is it important?
- 8 List out the features of secure electronic transaction?
- 9 What are the components of IP Security?
- 10 Is encapsulation a security? Justify.

#### Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 (a) What are the two classifications of security attacks? (5 Marks)  
(b) How many substitution techniques are there in cryptography? (5 Marks)

OR

- 12 (a) Why is the OSI model important for cyber security? (5 Marks)  
(b) Which technique is used in steganography? Give Example. (5 Marks)

- 13 (a) Write short notes on block cipher structure? (5 Marks)  
(b) Why is the Diffie-Hellman key exchange secure? Explain. (5 Marks)

OR

- 14 (a) Explain in detail about the two types of stream ciphers? (5 Marks)  
(b) What is ECC how it is different from the cryptography? (5 Marks)

- 15 (a) Define hash function and explain any 4 types of hashing function? (5 Marks)  
(b) How does Public Key Infrastructure protect information assets? (5 Marks)

OR

- 16 Explain SHA algorithm with suitable example. (10 Marks)
- 17 (a) How do you secure electronic transaction? Explain. (5 Marks)  
(b) What is Transport Layer Security and how does it work? (5 Marks)
- OR
- 18 (a) What is SSL explain architecture of SSL? (5 Marks)  
(b) Why Pretty Good Privacy and MIME important explain? (5 Marks)
- 19 (a) What is IP security and its architecture? (5 Marks)  
(b) Why password management is important for security in network? (5 Marks)
- OR
- 20 (a) Explain how authentication header provides protection to IP header? (5 marks)  
(b) Write short notes on NIDS and HIDS. (5 marks)