Printed Pages:2 Sub Code: KNC301 Paper Id: | 233075 Roll No. B.TECH. (SEM III) THEORY EXAMINATION 2022-23 COMPUTER SYSTEM SECURITY Time: 3 Hours Total Marks: 50 Note: 1. Attempt all Sections. If require any missing data; then choose suitably. ### **SECTION A** 1. Attempt all questions in brief. $1 \times 10 = 10$ Ono. **Question** What is computer security? Discuss confidentiality and integrity. a. What is Ransomware? b. What is the use of frame busting in web security? c. d. Differentiate between encryption and decryption in cryptography. Discuss software fault isolation. e. f. What is use of kernel in Unix operating system? Define hash function. What is the use of hash function? g. What is the main difference between virus and worm? h. What is SQL injection attack? Explain in brief. i. What is difference between Cache Memory and RAM j. 2. Attempt any three of the following: 5x3=15What is control hijacking? Discuss the various types of hijacking attacks in detail. a. What is system call interposition? Explain *ptrace* and *systrace* in detail. b. Discuss browser isolation and remote browser isolation in detail. c. d. Explain RSA algorithm with the help of suitably chosen example.

What is an Intrusion Detection System (IDS)? Discuss the various approaches

adopted in developing IDS system.

e.

SECTION C

3. Attempt any *one* part of the following:

5x1=5

- a. Describe various types of security threats in detail.
- b. Explain the different types of defenses used against control hijacking.
- 4. Attempt any *one* part of the following:

5x1=5

- a. Define confinement principle. Discuss the approaches of confinement at different levels.
- b. What are Rootkits? Discuss the various types of Rootkits in detail.
- 5. Attempt any *one* part of the following:

5x1=5

- a. What is cross site request forgery? Explain the concept with suaitable examples.
- b. Discuss the defenses and protection against cross site scripting.
- 6. Attempt any *one* part of the following:

5x1=5

- a. Describe Symmetric key and Asymmetric key Cryptography eith due emphasis on the difference between them.
- b. What is digital signature? Discuss the various steps used in creating digital signature.
- 7. Attempt any *one* part of the following:

5v1=5

- a. What is firewall? Explain packet filtering firewall in detail.
- b. Write short note on the following:
 - (i) DNS security
 - (ii) Routing security