

Register No.: ..... Name: .....

## SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

THIRD SEMESTER M.C.A DEGREE EXAMINATION (Regular), FEBRUARY 2022

(2020 SCHEME)

Course Code: 20MCAT221

Course Name: Cyber Security and Cryptography

Max. Marks: 60

Duration: 3 Hours

### PART A

*(Answer all questions. Each question carries 3 marks)*

1. Differentiate cryptography and steganography.
2. Explain symmetric encryption.
3. Give various operations in last round of AES.
4. Discuss the strengths and weaknesses of public key.
5. Explain MAC.
6. Write a short note on blind signatures.
7. What are the services provided by SSL?
8. What do you mean by MIME?
9. What is XSS?
10. Write a note on broken authentication.

### PART B

*(Answer one full question from each module, each question carries 6 marks)*

#### MODULE I

11. Discuss the various security services and mechanisms used in cryptography. (6)

OR

12. a) Explain symmetric cipher model. (3)  
b) Write short note on rail fence cipher. (3)

#### MODULE II

13. With a neat diagram, elaborate AES algorithm. (6)

OR

14. a) What is public key encryption? Explain. (3)  
b) Compare private key and public key. (3)

#### MODULE III

15. How is security implemented using MAC and hash in cryptography? (6)

OR

16. Write and explain the various steps involved in RSA algorithm. (6)

**MODULE IV**

17. Discuss the various protocols used to enhance e-mail security. (6)

**OR**

18. Explain the IP security architecture. (6)

**MODULE V**

19. Explain any three web application security vulnerabilities. (6)

**OR**

20. How can you prevent the vulnerabilities in web applications? Explain. (6)

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