

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

**SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**SECOND SEMESTER MCA DEGREE EXAMINATION (R), MAY 2023****(2021 SCHEME)****Course Code: 21CA202****Course Name: Web and Database Security****Max. Marks: 60****Duration: 3 Hours****PART A*****(Answer all questions. Each question carries 3 marks)***

1. What is the relevance of RSA in public key cryptography ?
2. What is AES? Why is it considered a strong symmetric key algorithm?
3. How do log files play a role in maintaining the security and functionality of a system?
4. How can ad-blocking software and cookie management help to protect users' privacy?
5. How does access control work in the context of database security, and what is its role in protecting sensitive data?
6. Explain XML access control models. How do they help in managing access to XML data?
7. What is insider misuse? How does anomaly detection contribute to detect malicious activities?
8. What is trustworthy records retention? Why is it important for organizations?
9. What are three important resources required for authorization in a mobile environment?
10. What are some of the open issues and challenges in authorization models?

**PART B*****(Answer one full question from each module, each question carries 6 marks)*****MODULE I**

11. a) Explain the ceaser cipher and its encryption process. Provide an example to demonstrate how it works and discuss its limitations. (3)
- b) Discuss the key components involved in the creation and verification of digital signatures, including the use of digital certificates and certification authorities(CAs) in a public key infrastructure (PKI). (3)

**OR**

12. a) Discuss the limitations of cryptography in ensuring complete security and privacy. (3)
- b) Discuss the web security problem and the challenges faced in securing web applications. (3)

**MODULE II**

13. a) Explain three privacy protecting techniques and technologies that can be employed to enhance online privacy and data protection. (3)
- b) Describe best practices for creating a strong password and discuss the significance of password strength in maintaining online security. (3)

**OR**

14. a) What are three common techniques used to avoid spam and junk email? (3)
- b) What are three measures you can take to ensure secure email communication? (3)

**MODULE III**

15. a) Explain the concept of credential-based access control and provide three examples of credentials that can be used in this model. (3)
- b) Provide an overview of policy composition solutions in access control and explain how they enhance security and flexibility in access control systems. (3)

**OR**

16. a) What is the concept of trust management, and what are its principal contributions to date? (3)
- b) What are three XML access control models used for managing access control policies in XML-based systems? (3)

**MODULE IV**

17. a) Explain the concept of security reconfiguration in the context of database security and discuss its significance. (3)
- b) How does trust management relate to database issues? (3)

**OR**

18. a) What is database watermarking for copyright protection and explain its significance. (3)
- b) Explain the types of numeric and categorical watermarks used in database watermarking for copyright protection. (3)

**MODULE V**

19. a) What are the key components of a system architecture for a mobile application environment? (3)

- b) What is an authorization model in a mobile environment? Why is it important? (3)

**OR**

20. a) What are some open issues in the context of the unified index for authorizations, moving objects, and profiles? (3)
- b) What is the unified index for authorizations and profiles in a mobile environment? (3)

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