

CMR ENGINEERING COLLEGE: : HYDERABAD**UGC AUTONOMOUS****IV–B. TECH–I–Semester End Examinations (Supply) - April- 2025****INFORMATION SECURITY & RISK MANAGEMENT****(CSE)****[Time: 3 Hours]****[Max. Marks: 70]****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A**(20 Marks)**

1. a) What are types of security attacks? [2M]
- b) Compare substitution ciphers with transposition ciphers [2M]
- c) Give the features of Authentication headers. [2M]
- d) Define HMAC? [2M]
- e) What is Digital Signature? [2M]
- f) What is the Database Security? [2M]
- g) Explain IP Security? [2M]
- h) What are the limitations of firewalls? [2M]
- i) Define a web security? [2M]
- j) Define Risk analysis? [2M]

PART-B**(50 Marks)**

- 2.a) Discuss in detail about various types of Security attacks with neat diagrams [5M]
- b) Explain in detail about the Common Vulnerabilities and Exposure? [5M]

OR

3. With a neat diagram explain how encryption and decryption are done using Blowfish algorithm? [10M]
4. Explain the RSA algorithm? With suitable examples. [10M]

OR

- 5.a) What is Elliptic Curve Cryptography? Discuss ECC algorithm with neat diagram. [5M]
- b) Discuss about Message authentication and Hash Functions. [5M]

6. Explain how Client Machine C wants to communicate with Server S using Kerberos protocol? [10M]

OR

- 7.a) Discuss the steps involved in Key performance indicators. [5M]
- b) Write a short note on Data leakage threats? [5M]

- 8.a) Briefly discuss about IP Security Architecture. [5M]
- b) Explain about the Encapsulating Security Payload. [5M]

OR

- 9.a) Explain about the Secure Electronic Transaction. [5M]
- b) What are the types of Firewalls? Explain with example. [5M]

- 10.a) What are the principles of Risk analysis process? [5M]
- b) What are the Security Roles in Accountability? [5M]

OR

11. Explain the key elements of information security policies. [10M]
