

Code No.: CS731PE

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**CMR ENGINEERING COLLEGE: : HYDERABAD**  
**UGC AUTONOMOUS**  
**IV-B.TECH-I-Semester End Examinations (Supply) – April - 2024**  
**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) Mention the key principles of security. [2M]
- b) Discuss about Blowfish. [2M]
- c) What is message authentication? [2M]
- d) Outline the principles of public key cryptosystems. [2M]
- e) What is PGP? [2M]
- f) List out MIME content types. [2M]
- g) Explain IP Security. [2M]
- h) How does a virus & worm occur? [2M]
- i) Describe the information and data security. [2M]
- j) Illustrate the responsibilities of security steering Committee in the information security. [2M]

**PART-B**

**(50 Marks)**

- 2.a) Distinguish between Differential and Linear cryptanalysis. [5M]
  - b) Illustrate the procedure of key distribution in conventional encryption. [5M]
- OR**
3. Illustrate the overall scheme for DES encryption with neat diagram. [10M]
- 4.a) With an example explain the RSA algorithm. [5M]
  - b) Summarize types of attacks addressed in message authentication. [5M]
- OR**
5. Explain the working of HMAC algorithm with neat diagram. [10M]
6. Describe the general format of a certificate and explain X.509 certificate. [10M]
- OR**
- 7.a) Discuss the approaches for Digital Signatures standards. [5M]
  - b) What are potential damage and adverse consequences of a data leakage incident? [5M]
- 8.a) Explain the IPSec Authentication Header with diagram. [5M]
  - b) Define payload? And discuss about encapsulating security payload? [5M]
- OR**
- 9.a) List four techniques used by firewalls to control access for security. [5M]
  - b) Analyse the role of trusted systems in enforcing security. [5M]
10. Discuss the responsibilities of Security Analyst in the information security. [10M]
- OR**
11. Demonstrate the critical factors of Information Security Management systems. [10M]

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