Code No.: CS731PE   R20   H.T.No. | | | 8 | R | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B. TECH–I–Semester End Examinations (Regular) - November- 2023
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) List out the various security services.   [2M]
   b) Recall the two basic functions used in encryption algorithms.   [2M]
   c) List the advantages of elliptic-curve cryptography.   [2M]
   d) Define HMAC.   [2M]
   e) Discuss various Digital signatures.   [2M]
   f) What is Data leakage? How does it occur?   [2M]
   g) What are the features of Authentication Header?   [2M]
   h) Outline the limitations of firewalls.   [2M]
   i) Who decides if the information security program can adapt to change adequately?   [2M]
   j) List out the recommended security management models.   [2M]

PART-B   (50 Marks)

2. a) Discuss in detail about various types of Security attacks with neat diagram.   [5M]
   b) Explain the model of network security with a neat diagram.   [5M]

OR

3. Explain the internal structure of single round in DES algorithm with neat sketch.   [10M]

4. a) Explain briefly Diffie-Hellman key exchange.   [5M]
   b) Distinguish between a message authentication code and a one-way hash function.   [5M]

OR

5. Elaborate RSA public-key encryption algorithm.   [10M]

6. a) Describe the importance of Kerberos and give its requirements.   [5M]
   b) Discuss the five header fields of MIME.   [5M]

OR

7. Discuss about different services provided by Pretty Good Privacy.   [10M]

8. a) Explain the IP security architecture with a neat sketch.   [5M]
   b) What are the components of SET system? Explain briefly.   [5M]

OR

9. a) Explain the parameters that define an SSL session connection.   [5M]
   b) Outline the benefits that can be provided by an intrusion detection system.   [5M]

10. Elaborate the responsibilities of CEO or Executive Management.   [10M]

OR

11. a) Discuss about the security Engineer.   [5M]
    b) Distinguish between quantitative and qualitative risk control practices.   [5M]

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