CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐

Sixth Semester B.E. Degree Examination, July/August 2022
Cryptography, Network Security and Cyber Law

Time: 3 hrs.　　　　　　　　　　　　　　　　　　　　　　Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1	a.	Describe the types of Vulnerabilities in the domain of security.	(10 Marks)
	b.	Explain the guiding principles of sound security practice.	(10 Marks)

OR

2　a.　Explain the Hill cipher technique. Obtain the cipertext corresponding to the plain text "CSE"

with key matrix $\begin{bmatrix} 1 & 2 & 7 \\ 3 & 4 & 8 \\ 5 & 9 & 9 \end{bmatrix}$ using Hill Cipher technique.　　　　　　(10 Marks)

　　b.　Explain DES construction in detail.　　　　　　　　　　　　　　　　(10 Marks)

Module-2

3	a.	Explain RSA algorithm in detail.	(10 Marks)
	b.	Describe Public Key Cryptography Standard (PKCS).	(10 Marks)

OR

4	a.	Explain basic properties of cryptographic hash function.	(05 Marks)
	b.	With a sketch, explain the process of computing Hash function using SHA-1 algorithm.	(15 Marks)

Module-3

5	a.	With a diagrams, explain PKI architectures.	(10 Marks)
	b.	Explain Needham Schroeder protocol version 1, and its susceptibility to man-in-the middle attack.	(10 Marks)

OR

6	a.	Define Biometric. Describe the characteristics of a good biometric.	(05 Marks)
	b.	Explain IP sec protocols authentication header and Encapsulating Security Payload (ESP) in transport mode.	(10 Marks)
	c.	What is VPN? Describe two most widely used VPNs.	(05 Marks)

Module-4

7	a.	Explain in detail the characteristics of worm.	(10 Marks)
	b.	Define firewall. Explain the main functions of a fire wall.	(10 Marks)

OR

8 a. Explain different types of Intrusion Detection Systems (IDS) based on functionality.
(10 Marks)
  b. Explain any two technologies for web services. (10 Marks)

Module-5

9 a. What is IT Act? Describe its objectives and scope. (10 Marks)
  b. Define Digital Signature. Explain the provisions of IT Act in relation to Digital Signature.
(10 Marks)

OR

10 a. Explain duties of subscribers. (10 Marks)
   b. Write any ten functions of the controller. (10 Marks)

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