Reg. No.												

Question Paper Code	13725

M.E. - DEGREE EXAMINATIONS, APRIL / MAY 2025

Second Semester

Big Data Analytics

24PBDPC202 - BIG DATA SECURITY

Regulations - 2024

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Given Cipher text "YMJTYMJWXNIJTKXNQJSHJ", the message is encrypted by Caesar cipher and k=5. Try to decrypt the message.	2	K2	CO1
2.	State the five modes of operation of block cipher.	2	K1	CO1
3.	Tell about elliptic curve.	2	K2	CO2
4.	Is the Diffie Hellman key exchange protocol vulnerable? Justify.	2	K1	CO2
5.	Differentiate Message Authentication Code and Hash function.	2	K2	CO3
6.	Define the classes of message authentication function.	2	K1	CO3
7.	Summarize the process of simulation in Security Analytics.	2	K1	CO4
8.	Compare various types of log files used in Security Analytics.	2	K2	CO4
9.	Identify different types of security breaches and provide examples of each.	2	K2	CO5
10.	Compare and contrast Access Analytics and Text Mining in terms of their application in security analysis.	2	K2	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain various transposition ciphers in detail.	13	K2	CO1
		OR			
	b)	Demonstrate the strength and weaknesses of substitution and transposition ciphers with suitable examples.	13	K2	CO1
12.	a)	Explain the key generation, encryption, and decryption in ElGamal.	13	K2	CO2
		OR			
	b)	Discuss the discrete logarithm with example.	13	K2	CO2
13.	a)	Illustrate Hash function algorithm is designed? Explain their features and properties.	13	K3	CO3
		OR			

	b)	Determine the classification of authentication function in detail.	*13*	*K3*	*CO3*
14.	a)	Design a comprehensive security process incorporating various analytics techniques for a large-scale organization.	*13*	*K4*	*CO4*
		OR			
	b)	Propose innovative approaches to overcome challenges in intrusion and incident identification using advanced analytics methods.	*13*	*K4*	*CO4*
15.	a)	Assess the impact of a security breach on an organization's operations and reputation.	*13*	*K4*	*CO5*
		OR			
	b)	Utilize text mining techniques to extract meaningful insights from security-related documents or logs.	*13*	*K4*	*CO5*

PART - C (1× 15 = 15 Marks)

16.	a)	User A & B exchanges the key using Diffie Hellman algorithm. Assume á=5, q=11, XA=2, and XB=3. Find YA, YB, and K.	*15*	*K4*	*CO2*
		OR			
	b)	Design a text mining algorithm tailored to detect specific security threats in large volumes of unstructured data.	*15*	*K4*	*CO5*