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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
 [AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
 Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 130019

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – JAN. 2025

Sixth Semester

Computer Science and Engineering

U19CTOE2 – FUNDAMENTALS OF INFORMATON SECURITY

(Common to IT)

(Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	List the need for security.	2	K1	CO1
2.	Distinguish between System Access and data access.	2	K2	CO1
3.	What is Vernam cipher?	2	K1	CO2
4.	How Cryptanalysis differ from the Cryptosystem ?	2	K2	CO2
5.	What is the working of IP Security ?	2	K2	CO3
6.	Explain the need for Kerberos.	2	K2	CO3
7.	What is the full form of "VIRUS"?	2	K1	CO4
8.	State the role of firewalls.	2	K2	CO4
9.	How can we responsibly and safely store and transmit sensitive information?	2	K2	CO5
10.	List out the professional issues in Information security.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	i. Briefly define and explain the categories of Passive and active security attacks.	11	K3	CO1
	ii. What is masquerading attacks?	2		
(OR)				
b)	Explain the threats and Security attacks occur in Information Security.	13	K3	CO1
12. a)	Encrypt the message "meet me at the usual place at ten rather than eight o clock" using the Hill cipher.	13	K4	CO2
	(OR)			
b)	i. Using the vigenere cipher, encrypt word "cryptographic" using the key word "eng".	8	K4	CO2
	ii. Write a note on Hash function.	5		
13. a)	i. Briefly explained the X.509 certification techniques.	8	K4	CO3
	ii. What are various techniques there user authentication?	5		
(OR)				
b)	i. Briefly Explain the various types of tools in Network security.	8	K2	CO3
	ii. Explain how security is given in E-mails.	5		
14. a)	i. What is man-in-the-middle attack? Explain.	8	K2	CO4
	ii. Briefly explain circuit level and packet level firewall and state their advantages and disadvantages.	5		
(OR)				
b)	i. Write a note on Honeypots.	6	K4	CO4
	ii. Write about the types of analysis adopted by Intrusion Detection and Protection System (IDPS) and the types of IDPS.	7		
15. a)	i. Explain in details the pros and cons while developing an information security system.	7	K2	CO5
	ii. Why ethical issues must be taken into consideration while developing such systems.	6		
(OR)				

b)	i.	What are ethical best practices in cyber security?	7	K4	CO5
	ii.	What are cyber security professionals obligations to the public?	6		

PART – C

(1 x 15 = 15Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	i. Explain a brute-force attack method with example.	9	K4	CO2
		ii. AES provides better security than DES and 3-DES- Justify with proper explanation.	6		
		(OR)			
	b)	Explain the vigenere cipher in detail with example.	15	K4	CO2