Name:	UPES
Enrolment No:	UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: IT Data Security   **Semester: IV**
Program: B.Tech CSE + CSF   **Time 03 hrs.**
Course Code: CSSF 2002   **Max. Marks: 100**

Instructions:
1. Be specific while answering the questions.
2. For cipher based questions, consider {ABCDEFGHIJKLMNOPQRSTUVWXYZ} as your dataset and avoid spaces and punctuations.
3. Indexing of dataset is 0 to 25.
4. Internal choices are provided in Question 9 and 11

SECTION A

S. No.		Marks	CO
Q 1	Differentiate between Security and Privacy in brief (minimum 3 points).	4	**CO1**
Q 2	Encrypt the following Plain Text using Vigenere Cipher. Plain Text: ASIMPLE Key: DAT Note: Please do not consider spaces between the words.	4	**CO3**
Q 3	Differentiate between Chosen Plaintext Attack and Known Cipher Text Attack. (Minimum 2 points)	4	**CO2**
Q 4	Discuss Network Based Auditing approach for auditing database access and activity.	4	**CO4**
Q 5	Describe the process of Smurf ICMP DoS attack.	4	**CO2**

SECTION B

Q 6	Discuss SQL Injection attack and explain any 3 queries which are used to exploit web based application in this attack.	10	**CO3**
Q 7	Describe threat along with the various stages involved in advanced threat?	10	**CO2**
Q 8	Describe the three basic approaches for auditing database access and activity.	10	**CO4**
Q 9	Discuss the following terms: • Logic Bomb • Companion Virus **OR** Discuss the following terms: • Sniffing • Repudiation	10	**CO1**

SECTION-C

Q 10	Calculate the Cipher Text : CT' and CT'' in the architecture given below, where plain text for Vigenere Cipher is ATTACKAT KEY= LEMON KEY = (5,8) ATTACKAT → Vigenere Cipher — CT' → Affine Cipher → CT"	20	CO3, CO4
Q 11	Discuss Buffer overflow attack and any 3 preventive measures against this attack. **OR** Discuss the term "Malware". List out the name along with their characteristics of any two malware. What are the various stages involved in a malware attack?	15+5 OR 5+5+10	CO1, CO2

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3. Indexing of dataset is 0 to 25.
4. Internal choices are provided in Question 9 and 11

SECTION A

S. No.		Marks	CO
Q 1	What do you understand by CIA triad? Explain in brief. (minimum 4 points)	4	CO1
Q 2	Encrypt the following Plain Text using Vigenere Cipher. Plain Text: TOBEORNOT Key: RELAT **Note:** Please do not consider spaces between the words.	4	CO3
Q 3	Differentiate between Known Plaintext Attack and Known Cipher Text Attack. (Minimum 2 points)	4	CO2
Q 4	Discuss Agent based auditing approach for auditing database access and activity.	4	CO4
Q 5	Describe the process of SYN Flooding TCP DoS attack.	4	CO2

SECTION B

Q 6	Describe SQL Injection attack and how it is performed using SQL queries.	10	CO4
Q 7	Discuss Pharming attack. Consider a scenario and Illustrate how this attack is performed.	10	CO2
Q 8	Discuss various types of Database Activity Monitoring Architectures.	10	CO4

Q 9	Discuss the following terms:
	  • Rogue Access Points
	  • Misconfiguration
	
	                   OR
	
	Discuss the following terms:
	  • Blue Bugging
	  • Polymorphic Virus
		10	CO1

SECTION-C

Q 10	Calculate the Cipher Text : CT' and CT'' in the architecture given below, where plain text for Vigenere Cipher is DATASEC 	20	CO3, CO4
Q 11	Discuss XSS attack and any 3 preventive measures against this attack. **OR** Discuss the term "Threat". What are the various phases involved in a basic attack.	**10+10** **OR** **6+14**	CO1, CO2