

Name:	 UPES <small>UNIVERSITY WITH A PURPOSE</small>
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: Information Security Fundamentals	Semester: 3rd
Program: B. TECH (CSE) + CSF	Time: 03 hrs.
Course Code: CSSF 2001	Max. Marks: 100

Instructions: (i) Exam is Close Book, (ii) Exchange of mobile phone, calculator or any other item is not allowed, (iii) Start answers to a new question on a fresh page, (iv) All parts of a question should be answered together and (v) Scattered part answers will not be evaluated.

SECTION A

S. No.	Question	Marks	CO
Q 1	List and describe 3 reasons why log management is so important?	4	CO1
Q 2	Generate Cipher-text using Ceaser cipher. Plain text: "Cyber" Key: K(+3).	4	CO2
Q 3	Compare and Contrast the features of Public and Private Key Cryptography.	4	CO5
Q 4	What is data leakage? How will you detect and prevent it?	4	CO3
Q 5	Explain Buffer Overflow attack.	4	CO4

SECTION B

Q 6	"Hashed passwords are not unique to themselves due to the deterministic nature of hash function." Comment on this statement and suggest a better way for securing passwords if this statement is true.	10	CO2
Q 7	Describe the following user threats and vulnerabilities: i. No awareness of security. ii. Data theft. iii. Unauthorized downloads and media iv. Destruction of systems, applications or data	10	CO1
Q 8	List 3 various biggest sources of malware. What is malware threat intelligence? Explain the importance of software updates with regard to malware.	10	CO3 & CO4
Q 9	Consider a web app that displays user posts, similar to Twitter and Facebook. The developers of the web app have accidentally left it vulnerable to cross-site scripting attacks. Explain how you would perform a cross-site scripting attack against the web app. Explain in detail. OR Give examples of atleast 5 cheat codes used to fetch data from database using webApp.	10	CO4 & CO5

SECTION-C

<p>Q 10</p>	<p>You are a new CISO (chief information security officer) at a company. As part of your work you have to create a work plan, to do so, you must understand the organization by mapping and analyzing assets, risks and threats.</p> <p>Describe how to perform asset and risk management.</p> <p style="text-align: center;">OR</p> <p>Describe how to perform risk assessment and explain security controls, state 3 types of Functional Security Controls.</p>	<p style="text-align: center;">20</p>	<p style="text-align: center;">CO3 & CO5</p>
<p>Q11</p>	<p>List and explain 5 ways to harden your Network security. Describe 5 ways to harden your Operational System security.</p>	<p style="text-align: center;">20</p>	<p style="text-align: center;">CO1,C O2 & CO4</p>