Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

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

Course: Information Security Fundamentals **Semester: V**
Program: B. Tech. (CSE) IFM/CCVT **Time: 03 hours**
Course Code: CSSF 2001P **Max. Marks: 100**

SECTION A

1. Each Question carry 4 Marks

Q1	Justify the need for *CIA Triad* with appropriate examples.	**CO1**
Q2	Distinguish between *secure sockets layer* (SSL) and *transport layer security* (TLS).	**CO2**
Q3	Define *virus*, *worm*, and *Trojan* with examples.	**CO3**
Q4	Discuss *vulnerabilities in the database* in brief.	**CO4**
Q5	Distinguish between *operating system logs* and *application logs*.	**CO5**

SECTION B

1. Each question carry 10 marks

Q6	Analyze the need for *operating system.* Discuss different *types of operating systems* in detail.	**CO4**
Q7	Describe various *types of attacks* generally found in network security.	**CO3**
Q8	Identify the need for *protection against malware*? Discuss various *solutions for protection against malware*.	**CO4**
Q9	Distinguish between *physical security* and *network security* with proper justification.	**CO3**

Section C

1. Each question carries 20 Marks.

Q10	(a) Justify the need for *information security audit*. Discuss the *main objectives of the information security audit*. Explain in detail about *information security audit process* with a proper diagram. OR (b) Identify the need for the *management of logs* in information security audits. Explain in detail about different *types of challenges* found in *log management*.	**CO5**
Q11	(a) Distinguish between *digital signature* and *digital certificates.* Identify the different challenges faced by *digital signature* and also specify solution with proper diagram. OR	**CO2**

	(b) i) Compare and contrast the features of public and private key cryptography. ii) Generate Cipher-text using hill cipher. Plain text: “CSF” Key: GYBNQKURP (use 3X3 matrix). iii) Discuss *secure hash algorithm* with example.	