

Name: Enrolment No:			
UPES End Semester Examination, December 2025 Course: Cyber Security Program: B-SC-CS Course Code: CSSF3025 Semester: V Time: 03 hrs. Max. Marks: 100 Instructions:			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Explain how confidentiality, integrity, and availability (CIA triad) are maintained in a secure Information Systems environment.	4	CO1
Q 2	Discuss the challenges associated with determining jurisdiction in cases of cross-border cybercrimes.	4	CO3
Q 3	Explain in detail the differences between a virus, worm, and Trojan.	4	CO2
Q 4	Examine the evolution of cyberspace and its impact on the nature of cyber threats.	4	CO1
Q 5	Describe how a cryptographic hash function contributes to message authentication. Include an example illustrating integrity verification.	4	CO2
SECTION B (4Qx10M= 40 Marks)			
Q 6	Explain Digital Signatures: Describe how they work and discuss their significance in ensuring authenticity and non-repudiation in communication.	10	CO2
Q 7	Discuss the role of the RBI Act in addressing cyber financial crimes.	10	CO3
Q 8	Explain the concept of a cryptographic hash function in message authentication: a) with confidentiality b) with no confidentiality	10	CO2
Q 9	Explain the concept of cyber-attacks: Discuss how vulnerabilities, threats, and threat actors shape the attack landscape.	10	CO1
SECTION-C (2Qx20M=40 Marks)			

Q 10	Conduct a forensic investigation where you suspect tampering in financial transaction logs. Describe how a cryptographic hash function can help you detect manipulation and reconstruct the original data.	20	CO2
Q 11	Describe various categories of cyber offences as recognised under the IT Act 2000 and the IT Amendment Act 2008.	20	CO3