

Seat No.: _____

Enrolment No. _____

NATIONAL FORENSIC SCIENCES UNIVERSITY
MTech Cyber Security – Semester II – August 2022

Subject Code: CTMTCS SII P5 EL1

Subject Name: Blockchain Application Security and Investigation

Date: 05/08/2022

Time: 11.00AM to 2.00PM

Total Marks: 100

Instructions:

1. Write down each question on separate page.
2. Attempt all questions.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

			Marks
Q.1	(a)	What is Blockchain Technology.	05
	(b)	Explain Merkle Tree.	05
	(c)	Discuss the advantages of Blockchain. [OR] Discuss the disadvantages of Blockchain.	07
Q.2	(a)	Write a note on Symmetric Encryption. [OR] Write a note on Asymmetric Encryption.	05
	(b)	Explain Hashing.	05
	(c)	Write a brief note on Nakamoto Consensus.	07
Q.3	(a)	Write a note on Proof-Of-Work.	08
	(b)	Write a note on Proof-Of-Stake.	08
Q.4	(a)	Write a note on Vigenere Cipher. [OR] Write a note on Sybil Attack.	05
	(b)	Write a note on Hash-Pointers.	05
	(c)	Discuss the properties that hash function must have in order for it to be considered secure.	07
Q.5	(a)	Write a note on Two-General Problem [OR] Write a note on Byzantine Generals Problem	05
	(b)	Discuss the role of Bitcoin Advocacy Groups.	05
	(c)	Discuss all the players who can be in-charge of any given cryptocurrency.	07
Q.6	(a)	Write a note on Proof-Of-Burn and Proof-Of-Space.	08
	(b)	Write a note on Proof-Of-Elapsed-Time with necessary examples.	08