

National Forensic Sciences University
School of Cyber Security and Digital Forensics
Course Name: M.Sc. Digital Forensics and Information Security (Batch: 21-23)

Subject Code: CTMSDFIS SIII P3

Semester - III

Time: 11.30 am to 01.00 pm

Subject Name: Blockchain and Cryptocurrencies

Date: 21-11-2022

Exam: Mid Semester Examination (NOV - 2022)

[24 Marks]

Q1. Answer the following questions in short.

- 1) Define Blockchain. Differentiate between public and private Blockchain
- 2) What is Sybil attack? How it can be prevented in Blockchain?
- 3) Explain PoS with example
- 4) Explain Nakamoto Consensus *skipped*
- 5) What is Smart Contract? Explain it with example
- 6) What is Proof of Work? Explain in brief

Q2. Answer the following questions in detail. (Attempt any 2)

[16 Marks]

- 1) Compare hard fork with soft fork in Blockchain
- 2) What is Ethereum 2.0? Explain DAO and DAO attack *(partially attempted)*
- 3) What is Gas and Gas limit? Explain the concept of digital signature

Q3. Answer in one Word/Sentence

[10 Marks]

1. Name the term for when a Blockchain splits *block*
2. What is the maximum number of bitcoins that will ever be created?
3. _____ hosts the software needed for transaction initiation, validation, mining, block creation, and smart contract execution.
a) External Account b) EVM
c) Ethereum full node d) Smart Contract
4. BATM stands for _____
5. For the simple symmetric key example discussed in the lecture, it is easy to derive the secret key from the encrypted data. True or False
6. What powers the Ethereum Virtual Machine?
a. Gas b. Ether c. Bitcoin d. Block Rewards
7. How many Ethers are issued per block in general?
8. What is the name given to the fork which will introduce Ethereum 2.0? *split*
9. Smallest denomination of Ethereum Units?
a. Gwei b. wei c. Twei d. Ether
10. What caused the Ethereum blockchain to split into Ethereum and Ethereum Classic?