BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Sc.(ANCS)-Hons-2020
Course Name – Block Chain and Crypto Currency
Course Code - BNCSD601A
(Semester VI)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Explain how Cryptography contributes to securing the Blockchain.

a) By encoding data in plain text
b) By providing anonymity to users
c) By encrypting data using mathematical algorithms
d) By providing a central authority to verify transactions

(ii) Identify the purpose of an API in a blockchain project.

a) To communicate with external applications
b) To secure the network
c) To create new blocks
d) To validate transactions

(iii) Identify the purpose of the blockchain API.

a) To mine new blocks
b) To validate transactions
c) To create and manage blocks
d) To interact with the blockchain network

(iv) Illustrate the process of creating new Bitcoins.

a) Through mining
b) Through peer-to-peer transactions
c) Through government regulation
d) Through social media promotions

(v) Predict the purpose of multiple chain validation in a blockchain network?

a) To prevent double spending
b) To ensure transaction validity
c) To maintain network security
d) To prevent chain forks

(vi) Propose methods to replace the Blockchain with a new version.

a) By deleting the existing chain and creating a new one
b) By creating a fork in the chain
c) By merging two existing chains
d) By modifying the existing blocks

(vii) Specify the name of the interface used to interact with a Blockchain network.

a) API
b) Wallet
c) Miner
d) Block

(viii) What do you identify as the purpose of cryptography in a blockchain network?

a) To validate transactions
b) To secure network communications
c) To distribute digital assets
d) To create new blocks

(ix) Which of the following do you identify as a characteristic of a blockchain wallet?

a) It is used to validate transactions
b) It is used to create new blocks
c) It is used to store digital assets
d) It is used to manage network communications

(x) Choose the option that correctly defines the purpose of the nonce in the proof of work consensus algorithm.

a) To validate transactions
b) To prevent double spending
c) To encrypt transaction data
d) To create new blocks

(xi) Choose the purpose of the difficulty adjustment algorithm in a blockchain network?

a) To maintain a constant block size
b) To maintain a constant transaction speed
c) To maintain a constant block creation rate
d) To maintain a constant transaction fee

(xii) Define Blockchain technology.

a) A tool for centralized data storage
b) A distributed database that stores data in a chain of blocks
c) An encryption algorithm for secure data transfer
d) A software for managing social media accounts

(xiii) Demonstrate the calculation of the balance of a wallet on the Blockchain.

a) By counting the number of transactions made by the wallet
b) By subtracting the amount spent from the amount received
c) By adding the amount spent and the amount received
d) By calculating the difference between the total amount of coins in the wallet and the spent amount

(xiv) Describe the process of creating a new block in a Blockchain.

a) By adding data to an existing block
b) By solving a cryptographic puzzle
c) By sending a transaction request to the network
d) By generating a random number

(xv) Discuss the significance of Multiple Chain Validation in the Blockchain.

a) The process of checking the validity of multiple blocks at once
b) The process of validating multiple transactions in a single block
c) The process of verifying multiple nodes on the network
d) The process of checking the authenticity of multiple users

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Evaluate the process of building and testing a Blockchain. (3)
3. Recall the purpose of Block Chain API and Project organization. (3)
4. Define Blockchain technology and explain its significance. (3)
5. Describe the process of multiple chain validation in blockchain? (3)
6. Analyze the role of the Nonce function in the Proof of Work consensus algorithm. (3)

OR

Analyze the different types of wallets and transactions used in Blockchain. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Outline the steps involved in implementing Blockchain. (5)
8. How do you analyze and test the Blockchain? (5)
9. Evaluate and compile the process of Testing the chain validation. (5)
10. Create a classification system for different types of Blockchain wallets based on their functionality and security features. (5)
11. Summarize the concept of Mine blocks post request (5)
12. Differentiate between public and private Blockchain. (5)

OR

Classify the smart contract in Blockchain? (5)

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