Introduction to Cryptoeconomics – Quiz

Cryptoeconomics

Question 1

What year was the Bitcoin whitepaper published?

A. 2008
B. 2009
C. 2010
D. 2007

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B. 2009
C. 2010
D. 2007

Answer: A
The Bitcoin whitepaper 'Bitcoin: A Peer-to-Peer Electronic Cash System' was published by Satoshi Nakamoto on October 31, 2008.

Question 2

What is the primary purpose of cryptoeconomics?

A. Creating cryptocurrencies
B. Designing incentive systems for decentralized networks
C. Trading digital assets
D. Mining Bitcoin

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Answer: B
Cryptoeconomics combines cryptography, economics, and game theory to design incentive mechanisms that align participant behavior in decentralized systems.

Question 3

Which problem did Bitcoin's design primarily solve?

A. Fast transaction speeds
B. Low energy consumption
C. Double-spending in digital currencies
D. Privacy in transactions

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Answer: C
Bitcoin solved the double-spending problem without requiring a trusted third party, enabling trustless digital currency transfers.

Question 4

What is the pseudonym of Bitcoin's creator?

A. Vitalik Buterin
B. Nick Szabo
C. Satoshi Nakamoto
D. Hal Finney

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Answer: C
Satoshi Nakamoto is the pseudonymous person or group who created Bitcoin and wrote its whitepaper.

Question 5

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A. Origin block
B. Genesis block
C. Prime block
D. Root block

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Answer: B
The first block of Bitcoin, mined on January 3, 2009, is called the Genesis block (block 0).

Question 6

Which of these is NOT a characteristic of blockchain technology?

A. Immutability
B. Centralized control
C. Transparency
D. Distributed ledger

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D. Distributed ledger

Answer: B
Blockchain is characterized by decentralization, not centralized control. Other key features include immutability, transparency, and distributed storage.

Question 7

What message did Satoshi embed in the Genesis block?

A. Hello World
B. The Times 03/Jan/2009 Chancellor on brink of second bailout for banks
C. Bitcoin is born
D. In code we trust

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B. The Times 03/Jan/2009 Chancellor on brink of second bailout for banks
C. Bitcoin is born
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Answer: B
This newspaper headline was embedded in the Genesis block, commenting on bank bailouts during the 2008 financial crisis.

Question 8

What is a 'trustless' system in blockchain context?

A. A system that cannot be trusted
B. A system where trust is placed in code and cryptography, not intermediaries
C. A system with no users
D. A system without encryption

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Answer: B

Trustless is a term meaning the system shifts trust from human intermediaries to cryptographic proofs, economic incentives, and code - though users still trust these mechanisms work correctly.

Question 9

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B. Hashcash proof-of-work
C. SWIFT network
D. Credit cards

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Answer: B
Hashcash, created by Adam Back in 1997, introduced the proof-of-work concept later used in Bitcoin mining.

Question 10

What is the maximum supply of Bitcoin?

A. 100 million
B. 21 million
C. Unlimited
D. 10 million

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Answer: B

Bitcoin has a hard cap of approximately 21 million coins, with a disinflationary emission schedule that halves rewards every 210,000 blocks.

Question 11

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B. Hierarchical
C. Peer-to-peer
D. Hub and spoke

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Answer: C
Bitcoin uses a peer-to-peer (P2P) network where all nodes are equal and can communicate directly.

Question 12

What is a blockchain?

A. A type of cryptocurrency
B. A chain of cryptographically linked blocks containing transaction data
C. A mining algorithm
D. A digital wallet

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Answer: B
A blockchain is a distributed ledger consisting of blocks linked via cryptographic hashes, each containing transaction records.

Question 13

Which field does cryptoeconomics combine with cryptography?

A. Physics
B. Economics
C. Biology
D. Chemistry

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B. Economics
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Answer: B
Cryptoeconomics combines cryptography (for security) with economics (for incentive design) to create robust decentralized systems.

Question 14

What is the Byzantine Generals Problem related to?

A. Mining efficiency
B. Wallet security
C. Achieving consensus in distributed systems with potential bad actors
D. Transaction speed

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Answer: C
The Byzantine Generals Problem describes the challenge of achieving consensus when some participants may be dishonest or faulty.

Question 15

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A. It uses strong encryption
B. No single entity controls the network
C. It is anonymous
D. It is fast

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Answer: B
Decentralization means no single authority controls the network; instead, power is distributed among many participants.

Question 16

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A. Creating new wallet addresses
B. Validating transactions and adding blocks to the chain
C. Setting Bitcoin prices
D. Managing user accounts

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Answer: B
Miners validate transactions, compete to solve proof-of-work puzzles, and add new blocks to the blockchain.

Question 17

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A. Requires government approval
B. Anyone can participate without needing authorization
C. Only verified users can join
D. Free to use

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Answer: B
Permissionless means anyone can join the network, transact, or validate without requiring approval from a central authority.

Question 18

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A. Network upgrade
B. Block reward halving
C. Fee adjustment
D. Security audit

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Answer: B
The Bitcoin halving reduces the block reward by 50% every 210,000 blocks (approximately 4 years at 10-minute block times), controlling supply inflation.

Question 19

Which statement about public blockchains is TRUE?

A. Only authorized users can view transactions
B. All transactions are visible to anyone
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D. Only miners can see the ledger

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B. All transactions are visible to anyone
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Answer: B
Public blockchains like Bitcoin are transparent - all transactions are visible to anyone, though addresses may be pseudonymous.

Question 20

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A. Faster data retrieval
B. Lower storage costs
C. Consensus-based immutable record without central authority
D. Better user interface

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Answer: C
Blockchain's key innovation is enabling multiple untrusting parties to agree on a shared, immutable ledger without needing a central authority.

Question 21

A startup wants to create a payment system where users don't need to trust a central bank or payment processor. Which cryptoeconomic principle would be most important to implement?

A. Centralized validation with multiple administrators
B. Distributed consensus with economic incentives for honest behavior
C. Faster transaction processing through centralized servers
D. User authentication through government ID verification

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C. Faster transaction processing through centralized servers
D. User authentication through government ID verification

Answer: B
Cryptoeconomics uses distributed consensus mechanisms (like proof-of-work or proof-of-stake) combined with economic incentives to ensure honest behavior without requiring trust in a central authority.

Question 22

Why did Satoshi Nakamoto specifically reference the newspaper headline 'Chancellor on brink of second bailout for banks' in the Genesis block?

A. To timestamp the block creation date
B. To demonstrate Bitcoin's potential as an alternative to the failing traditional banking system
C. To advertise The Times newspaper
D. To fulfill a legal requirement for blockchain creation

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B. To demonstrate Bitcoin's potential as an alternative to the failing traditional banking system

C. To advertise The Times newspaper

D. To fulfill a legal requirement for blockchain creation

Answer: B

The reference to bank bailouts during the 2008 financial crisis was both a timestamp and a political statement about Bitcoin's purpose as a decentralized alternative to traditional banking systems that required government rescue.

Question 23

A company claims their new blockchain can process 100,000 transactions per second while maintaining full decentralization. What trade-off should you be skeptical about?

A. They likely sacrificed security for speed
B. They likely sacrificed decentralization for scalability (blockchain trilemma)
C. They likely sacrificed privacy for transparency
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C. They likely sacrificed privacy for transparency
D. They likely sacrificed immutability for flexibility

Answer: B
The blockchain trilemma states that it's extremely difficult to simultaneously achieve high scalability, decentralization, and security. Systems claiming extreme transaction speeds often sacrifice decentralization by using fewer validators or more centralized architectures.

Question 24

If Bitcoin's block reward halves every 4 years and eventually reaches zero, what will incentivize miners to continue securing the network?

A. Altruism and commitment to the Bitcoin philosophy
B. Government subsidies for mining operations
C. Transaction fees paid by users
D. Mining will become unnecessary once all coins are mined

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B. Government subsidies for mining operations
C. Transaction fees paid by users
D. Mining will become unnecessary once all coins are mined

Answer: C
Bitcoin's economic model anticipates that as block rewards decrease, transaction fees will become the primary incentive for miners to continue validating transactions and securing the network. This transition is designed to maintain security even after all 21 million coins are mined.

Question 25

A government wants to create a 'blockchain' for land registry but requires government approval for all participants and the ability to reverse fraudulent transactions. Is this truly a blockchain in the original sense?

A. Yes, it uses blocks and chains so it's a blockchain
B. No, it's a permissioned distributed ledger that lacks key properties like permissionless access and immutability
C. Yes, as long as it uses cryptographic hashing
D. No, blockchains cannot be used for government applications

Question 25

A government wants to create a 'blockchain' for land registry but requires government approval for all participants and the ability to reverse fraudulent transactions. Is this truly a blockchain in the original sense?

A. Yes, it uses blocks and chains so it's a blockchain

B. No, it's a permissioned distributed ledger that lacks key properties like permissionless access and immutability

C. Yes, as long as it uses cryptographic hashing

D. No, blockchains cannot be used for government applications

Answer: B

While this system uses blockchain technology, it's more accurately called a permissioned or private blockchain. It lacks key properties of public blockchains like permissionless access, censorship resistance, and true immutability. This is sometimes called a 'distributed ledger technology' (DLT) rather than a blockchain in the original Bitcoin sense.

Question 26 (True/False)

Bitcoin was created in 2008.

A. True
B. False

Question 26 (True/False)

Bitcoin was created in 2008.

A. True

B. False

Answer: False

Bitcoin's whitepaper was published in 2008, but the Bitcoin network was launched on January 3, 2009, when Satoshi Nakamoto mined the genesis block.

Question 27 (True/False)

Cryptoeconomics combines cryptography and economics.

A. True
B. False

Question 27 (True/False)

Cryptoeconomics combines cryptography and economics.

A. True

B. False

Answer: True

Cryptoeconomics combines cryptography (for security) with economics (for incentive design) to create robust decentralized systems.

Question 28 (True/False)

Ethereum was the first blockchain ever created.

A. True
B. False

Question 28 (True/False)

Ethereum was the first blockchain ever created.

A. True

B. False

Answer: False

Bitcoin was the first blockchain, launched in 2009. Ethereum was launched in 2015 and was the first to popularize Turing-complete smart contracts.

Question 29 (True/False)

Satoshi Nakamoto's real identity is publicly known.

A. True
B. False

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Satoshi Nakamoto's real identity is publicly known.

A. True

B. False

Answer: False

Satoshi Nakamoto's identity remains unknown. Various individuals have been suspected, but no conclusive proof has been provided.

Question 30 (True/False)

DeFi stands for Decentralized Finance.

A. True
B. False

Question 30 (True/False)

DeFi stands for Decentralized Finance.

A. True

B. False

Answer: True

DeFi is the abbreviation for Decentralized Finance, referring to financial services built on blockchain without traditional intermediaries.

Question 31 (True/False)

The Bitcoin network requires permission from a central authority to join.

A. True
B. False

Question 31 (True/False)

The Bitcoin network requires permission from a central authority to join.

A. True

B. False

Answer: False

Bitcoin is permissionless, meaning anyone can join the network, transact, or run a node without requiring authorization from any central authority.

Question 32 (True/False)

Blockchain technology can only be used for cryptocurrencies.

A. True
B. False

Question 32 (True/False)

Blockchain technology can only be used for cryptocurrencies.

A. True

B. False

Answer: False

While blockchain was invented for Bitcoin, it has applications beyond cryptocurrencies, including supply chain tracking, identity management, voting systems, and smart contracts.

Question 33 (Fill in the Blank)

The creator of Bitcoin used the pseudonym ___. *Hint: It's a Japanese-sounding name consisting of two words.*

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The creator of Bitcoin used the pseudonym ___. *Hint: It's a Japanese-sounding name consisting of two words.*

Answer: Satoshi Nakamoto

Satoshi Nakamoto is the pseudonymous person or group who created Bitcoin and published the whitepaper in 2008. The true identity remains unknown.

Question 34 (Fill in the Blank)

Bitcoin has a maximum supply of ___ coins. *Hint: Think about the famous hard cap - it's 21 followed by 'million'.*

Question 34 (Fill in the Blank)

Bitcoin has a maximum supply of ___ coins. *Hint: Think about the famous hard cap - it's 21 followed by 'million'.*

Answer: 21 million

Bitcoin's supply is capped at 21 million coins through its protocol. This hard cap creates scarcity and is enforced by the halving mechanism.

Question 35 (Fill in the Blank)

The first block of Bitcoin is called the ___ block. *Hint: It's a biblical term meaning 'beginning' or 'origin'.*

Question 35 (Fill in the Blank)

The first block of Bitcoin is called the ___ block. *Hint: It's a biblical term meaning 'beginning' or 'origin'.* **Answer:**

genesis
The Genesis block (block 0) was mined by Satoshi Nakamoto on January 3, 2009, and contained the famous newspaper headline about bank bailouts.

Question 36 (Fill in the Blank)

Bitcoin's network architecture is ___ (P2P). *Hint: It's abbreviated as P2P - think about how nodes communicate directly.*

Question 36 (Fill in the Blank)

Bitcoin's network architecture is ___ (P2P). *Hint: It's abbreviated as P2P - think about how nodes communicate directly.* **Answer: peer-to-peer**

Bitcoin uses a peer-to-peer network where all nodes are equal and can communicate directly without central servers.