1. What is the primary consensus mechanism used in Hyperledger Fabric?

a) Proof of Work
b) Proof of Stake
c) Practical Byzantine Fault Tolerance (PBFT)
d) Delegated Proof of Stake

Answer: c) Practical Byzantine Fault Tolerance (PBFT)

Explanation: Hyperledger Fabric primarily utilizes the Practical Byzantine Fault Tolerance (PBFT) consensus mechanism to achieve agreement among nodes in the network. PBFT ensures consistency in the replicated state machine across all participating nodes.

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2. What is the purpose of identities and policies in Hyperledger Fabric?

a) To manage access control within a network
b) To encrypt transactions
c) To define the structure of blocks
d) To handle consensus mechanisms

Answer: a) To manage access control within a network

Explanation: Identities and policies in Hyperledger Fabric are crucial for managing access control within the network. They determine which participants have permission to interact with specific resources, such as channels and smart contracts.

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3. How are membership and access control managed in Hyperledger Fabric?

a) Through a central authority
b) Through cryptographic certificates
c) Through proof-of-work mining
d) Through random selection

Answer: b) Through cryptographic certificates

Explanation: Membership and access control in Hyperledger Fabric are managed through cryptographic certificates. Each participant in the network is issued a unique certificate that grants them permission to access certain resources based on predefined policies.

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4. What is the purpose of channels in Hyperledger Fabric?

a) To broadcast transactions to all nodes in the network
b) To establish communication between different organizations
c) To validate smart contracts
d) To encrypt data within the blockchain

Answer: b) To establish communication between different organizations

Explanation: Channels in Hyperledger Fabric allow different organizations to establish private communication channels within the network. This enables selective sharing of information and transactions among specific participants while maintaining privacy and confidentiality.

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5. How are transactions validated in Hyperledger Fabric?

a) Through proof-of-work mining
b) Through a voting-based consensus mechanism
c) Through endorsement and ordering by designated peers
d) Through random selection of validators

Answer: c) Through endorsement and ordering by designated peers

Explanation: In Hyperledger Fabric, transactions are validated through a process of endorsement and ordering by designated peers. Endorsement ensures that the transaction is valid according to the chaincode (smart contract) logic, while ordering ensures consistency and finality of the transaction sequence.

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6. Which programming languages can be used to write smart contracts in Hyperledger Fabric?

a) Solidity

b) JavaScript
c) Go (Golang) and Java
d) Python

Answer: c) Go (Golang) and Java

Explanation: Smart contracts in Hyperledger Fabric are typically written in Go (Golang) or Java. These languages offer robustness, efficiency, and compatibility with the Fabric framework.

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7. Which consensus mechanism is commonly associated with Ethereum?

a) Practical Byzantine Fault Tolerance (PBFT)
b) Proof of Work
c) Delegated Proof of Stake
d) Proof of Authority

Answer: b) Proof of Work

Explanation: Ethereum primarily uses the Proof of Work (PoW) consensus mechanism, although there are plans to transition to Proof of Stake (PoS) with the Ethereum 2.0 upgrade. PoW involves miners competing to solve complex mathematical puzzles to validate transactions and create new blocks.

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8. What distinguishes Ripple from other blockchain platforms?

a) Its focus on privacy and anonymity
b) Its consensus mechanism based on voting
c) Its emphasis on cross-border payments and settlement
d) Its integration of smart contracts

Answer: c) Its emphasis on cross-border payments and settlement

Explanation: Ripple stands out for its emphasis on facilitating cross-border payments and settlement for financial institutions. Its network, RippleNet, aims to provide fast, reliable, and cost-effective transactions across different currencies and payment systems.

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9. What is the main objective of Corda?

a) Decentralized finance (DeFi) applications
b) Cross-border remittances
c) Supply chain management and trade finance
d) Social media and content sharing

Answer: c) Supply chain management and trade finance

Explanation: Corda is designed primarily for supply chain management and trade finance applications. It focuses on facilitating secure and efficient transactions between parties involved in complex business processes, such as those found in supply chains.

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10. How does Corda handle privacy of transactions?

a) By making all transactions public on the blockchain
b) By encrypting transaction details and restricting visibility
c) By using a voting-based consensus mechanism
d) By random selection of validators

Answer: b) By encrypting transaction details and restricting visibility

Explanation: Corda prioritizes privacy by encrypting transaction details and restricting visibility. This ensures that only relevant parties have access to transaction data, maintaining confidentiality and security in business interactions.

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