Quiz: Competing Chains

Fork Resolution in Distributed Networks

Bloom's levels: 2 Understand · 4 Apply · 3 Analyze · 1 Evaluate

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BSc Blockchain, Crypto Economy & NFTs

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Quiz Questions 1–5

Q1. What happens when two miners find valid blocks at the same height?
A) The newer block is rejected B) Both blocks are valid; the network temporarily forks
C) Nodes vote on which block to keep D) The block with more transactions wins

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D) Automatically switch to Chain A and return B's transactions to mempool

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Answer: D – Nodes follow one rule: always switch to the chain with the most cumulative work. The reorg is automatic.

Q4. What is a blockchain reorganization (reorg)?
A) A planned software upgrade
B) A node switching from lighter to heavier chain after discovering more cumulative work
C) Miners voting to change block reward D) Reorganizing transactions within a block

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Q5. Alice sends 1 BTC to Bob. It's in Block B, which is orphaned. What happens?
A) 1 BTC permanently lost B) Alice must resend manually
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Answer: C – Orphaned transactions re-enter the mempool and are typically re-confirmed within 1–2 blocks.

Quiz Questions 6–10

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Answer: C – The chain selection rule works identically regardless of the number of competing branches.

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Q9. Node X (Tokyo) and Node Y (NYC). Miner A (Iceland) and Miner B (Brazil) find blocks simultaneously. Who sees what first?
A) Both see both simultaneously B) X likely sees A first (closer); Y likely sees B first (closer)
C) Both see A first D) Latency has no effect

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A) Also 0.3% B) Much higher — propagation delay dominates C) Lower D) Exactly 3%

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Answer: B – With 8–15 second propagation and 1-second blocks, nearly every block would create a fork.