

Cosmic Ledger: Cryptocurrency in the Final Frontier

Cryptocurrency · Practice Test · 25 Questions

1. What was the primary objective of the 'SpaceChain' project launched via a SpaceX Falcon 9 rocket in 2017?

- A) To mine Bitcoin in low-earth orbit
- B) To demonstrate a multi-signature blockchain satellite node
- C) To store cold-wallet private keys on the International Space Station
- D) To trade non-fungible tokens of lunar surface maps

2. Which company partnered with SpaceChain to test a multisig blockchain transaction on the International Space Station in 2021?

- A) Blue Origin
- B) Lockheed Martin
- C) ESA
- D) Nanoracks

3. What is the technical term for the blockchain platform designed by the Filecoin Foundation to incentivize decentralized data storage for space imagery?

- A) IPFS
- B) StarLedger
- C) OrbitChain
- D) CosmosVault

4. In 2021, a digital artist sold a 3D animation of a rotating coin on Mars as an NFT; what was the specific landing site featured in the animation?

- A) Jezero Crater
- B) Gale Crater
- C) Olympus Mons
- D) Valles Marineris

5. The 'Space-Based Blockchain' protocol developed by the company Blockstream utilizes what medium to broadcast Bitcoin transaction data globally?

- A) Laser pulses from the Moon
- B) Satellite-based radio transponders
- C) Interplanetary magnetic field modulation
- D) Sub-atomic particle streaming

6. Which celestial body's surface area was used as the conceptual scale for the maximum supply of the 'MoonCoin' cryptocurrency project?

- A) The Moon
- B) Mars
- C) Europa
- D) Titan

7. In orbital mechanics, what issue does 'Proof of Space and Time' (used by Chia) attempt to solve regarding traditional mining?

- A) Gravitational latency in data packets
- B) Energy-intensive proof-of-work consumption
- C) Radiation-induced bit-flipping
- D) Orbital velocity synchronization

8. What cryptographic challenge arises when attempting to synchronize a distributed ledger between Earth and a Mars-based colony due to the speed of light?

- A) Relativistic time dilation
- B) Variable latency synchronization
- C) Solar flare interference
- D) Quantum entanglement decoherence

9. The 'Doge-1' mission to the Moon, funded entirely by Dogecoin, was commissioned to carry what specific payload?

- A) A cold storage ledger
- B) A sensory-equipped CubeSat
- C) A physical Bitcoin hardware wallet
- D) A laser-etched blockchain genesis block

10. Which blockchain project focused on decentralized Earth observation data creates a market for satellite telemetry?

- A) PlanetChain
- B) GeoBit
- C) PledgeCoin
- D) SpaceBit

11. When synchronizing a blockchain node on a spacecraft, what phenomenon must be accounted for according to the Theory of General Relativity?

- A) Gravitational time dilation
- B) Dark energy flux
- C) Cosmic microwave background noise
- D) Magnetic pole inversion

12. The 'Starlink' satellite network has been proposed by analysts as a potential infrastructure backbone for which type of cryptocurrency network?

- A) Proof-of-Stake validator nodes
- B) Off-grid mesh networks
- C) Quantum-resistant ledgers
- D) Deep space communication relay

13. What is the primary vulnerability of proof-of-work mining in high-radiation environments like deep space?

- A) Thermal throttling
- B) Single-event upsets (bit flips)
- C) Vacuum-induced overheating
- D) Supernova electromagnetic interference

14. Which cryptocurrency network utilizes the 'InterPlanetary File System' (IPFS) as a core component for storing its data structure?

- A) Filecoin
- B) Solana
- C) Ethereum
- D) Cardano

15. The term 'Genesis Block' in blockchain parallels which astronomical concept describing the origin of a celestial body?

- A) Accretion disk formation
- B) Protostar ignition
- C) Singularity expansion
- D) Nebular condensation

16. Which space agency has publicly explored the use of blockchain for secure communication and command integrity of satellite constellations?

- A) NASA
- B) Roscosmos
- C) JAXA
- D) CNSA

17. What specific cryptographic mechanism is utilized in space-based blockchains to ensure data integrity despite solar radiation interference?

- A) Error-correcting codes (ECC)
- B) Zero-knowledge proofs
- C) Elliptic curve cryptography
- D) Hash-based signatures

18. The 'OrbitCoin' project focused on using which orbital characteristic to timestamp blockchain entries?

- A) Geostationary altitude
- B) Perigee-apogee intervals
- C) Sidereal rotation rates
- D) Orbital inclination

19. In a decentralized space network, why is 'Proof of History' considered more efficient than 'Proof of Work' for long-range communication?

- A) It requires no sequential validation
- B) It acts as a local clock for high-latency connections
- C) It uses radio frequency as a nonce
- D) It ignores gravitational lensing

20. Which cryptocurrency token was notably sent to the International Space Station as part of a public awareness campaign in 2022?

- A) Ethereum
- B) Cardano
- C) Stellar
- D) Litecoin

21. What is the 'Byzantine Fault Tolerance' limit in a decentralized network that experiences intermittent connectivity due to planetary occultation?

- A) 51 percent
- B) 33 percent
- C) 67 percent
- D) 10 percent

22. The 'SpaceBit' company aimed to launch a physical Bitcoin ledger on the lunar surface; which module was designated for this transport?

- A) Peregrine Lander
- B) SLIM Lander
- C) Chang'e-5
- D) Blue Ghost

23. In the context of space-based blockchain, what does the term 'Light Client' refer to in high-latency environments?

- A) A node that does not download full transaction history
- B) A solar-powered blockchain harvester
- C) A node using low-bandwidth laser transmission
- D) A wallet stored on a low-mass satellite

24. How do cosmic rays typically impact the cryptographic integrity of standard blockchain ledger storage on space-based hardware?

- A) By inducing memory bit flips
- B) By altering the hashing algorithm
- C) By disabling the node's power supply
- D) By increasing the mining difficulty

25. What is the most significant hurdle for utilizing 'Proof of Stake' on a Mars-to-Earth distributed ledger?

- A) The lack of local validators
- B) The 3-to-22 minute communication delay
- C) The difference in gravitational constant
- D) The low supply of liquid cooling