Cosmic Ledger: Cryptocurrency in the Final Frontier

Cryptocurrency · Answer Key · 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