

## Assignment 2

(Cryptocurrency)

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Q1] Analyze the economic and the technical reason behind the popularity of bitcoin over others. How do different consensus mechanism like PoB & PoET provide unique solution to the blockchain scalability and energy consumption issue?

⇒ Economic Factors :

First-mover advantage : Bitcoin was the pioneer in the cryptocurrency space, establishing a strong brand and user base.

Network effect : As the largest crypto by market capitalization, it benefits from the strong network effect. More users and merchants accepting bitcoin increase its value and utility.

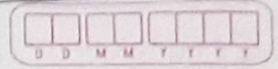
Store of value : Bitcoin's limited supply and increasing scarcity have led many to view it as a potential store of value, similar to gold.

Technical Factors :

Decentralization : Bitcoin's decentralization, achieved through blockchain technologies, ensures no single entity controls the network.

Security : The proof of work consensus mechanism, while energy intensive, provides a robust security model resistant to attack.





## Alternative Consensus Mechanism

### Proof-of-Burn :

Concept: Instead of consuming energy to mine new block, PoB involves "burning" coins by sending them to an unspendable address, the more coin burned, the higher the probability of being selected to create a new block.

### Proof of Elapsed time.

Concept: validator bid on the right to create the next block by sending a random number after a specific waiting period. The validator with the lowest random number wins.



Q2] Crypto wallets are essential for the management of digital assets, compare hot and cold wallet.

⇒ Hot wallets :

- These are digital wallets connected to the Internet, typically accessed through software or online platform.
- These are vulnerable to hacking, phishing attacks and malware due to their online nature.
- It is Easy to use for frequent transaction.

Cold wallets

- These physical devices or offline storage method that isolate crypto from the internet.
- They are highly secure as they are not connected to internet.
- They are less convenient for frequent transaction.

Factors to Consider

Security : If security is paramount, a cold wallet is generally the preferred choice.

Convenience : For frequent traders, hot wallet are the best options.



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Amount of crypto : For large amount cold storage.  
is strongly recommended

Technical proficiency : Some cold wallets require more  
technical knowledge than hot wallets

Ultimately, the choice between a hot and cold wallet  
depends on individual risk, security needs, and  
usage patterns. A combination of both might  
be optimal for some users.