24-S1-Q4

Q: (a) (i) Block Chain → trustless

(ii) public VS private.

Solution (a)(i) trustless

① Blockchain technology can lower transaction costs and increase efficiency in business application by providing a secure and transparent platform for transactions.

② By eliminating intermediaries, blockchain can reduce the cost of transactions and processing time.

③ Blockchain provides a permanent and immutable ledger, which improve the accuracy of transactions and reduce the risk of fraud.

④ It provide trust.

⑤ Blockchain allow for the creation of decentralized application, which can automate business processes, reducing the need for manual intervention.

Mechanisms

① Distributed ledger

② Cryptographic linking

③ Consensus algorithms.

Proof of Work

Proof of Stake

(b)(i) Ad. vs Disad.

① Security

public : Open participation

security come from economic incentives

and broad node diversity

private : access restricted

security come from legal contracts.

② Scalability

public : Block-size limits

global broadcast.

low throughput

private : easy to scaling

limitied validators

③ privacy

public : all data is public, poor confidentiality

private : data can be partitioned into private

channel to meet enterprise
secrecy requirement

(iii) environmental

① pow electricity demand is high, raising carbon-emission concerns

strategies

① shifting to Proof of Stake

② Delegated proof of Stake

③ Proof of Elapsed Time

④ Proof of Authority

(b) (i) ① concept

DeFi refers to the use of decentralized technology, such as blockchain, to offer financial services and products.

② Role of Blockchain

Immutable ledgers record positions.
smart contracts hold collateral
execute logic and disburse fund.

③ Threatens

(1) DeFi eliminating the need for intermediaries

(2) DeFi offers financial services to individuals who may not have access to traditional finance

(3) DeFi operates on a public ledger, providing greater transparency and accountability than traditional finance.

(4) DeFi reduce the risk of fraud and theft

④ Reward.

(1) High yield opportunities

(2) Transparent reserves

⑤ Risk

(1) Volatility: highly volatile cryptocurrency assets, which can increase the risk of investment

(2) Immature Technology: DeFi has yet to be fully stress-tested.

(3) Scaling Risk: slow transaction speeds.

(ii) cryptocurrencies has a bright future as we believe.