

SPPU-BE-COMP-CONTENT - KSKA Git

BT

CLASSMATE

Date :

Page :

ASSIGNMENT-5

Q1

Problem identified: lack of trust, transparency & security in data sharing across organisations.

Possible solutions:

1. Public Blockchain: Ensures full transparency & immutability for open systems
2. Private Blockchain: controlled access for enterprise use (eg supply chain, banking)
3. Consortium Blockchain: shared control by multiple organisations suitable for inter bank settlements or healthcare.
4. Hybrid blockchain: combines both public transparency & private control.

Q2

1. Scalability issues: slow transaction speed compared to centralised systems.
2. High energy consumption: especially in PoW based systems.
3. Integration difficulties: legacy systems may not easily connect with block chain.
4. Regulatory uncertainty: unclear government policies delay adoption.

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Q3

1. Transparency: all transⁿ recorded & traceable
2. Immutability: once recorded, data cannot be altered
3. Securing: cryptographic protⁿ prevents fraud & hacking
4. Cost reduction: removes need for intermediaries
5. Efficiency: faster transⁿ & automⁿ via smart contracts

Q4

- The application (eg. Supply chain management/ banking system) is a permissioned blockchain.
- Trustification: only authorized participants (banks, suppliers, regulators) should validate & access transactions. A permissionless system would compromise privacy & compliance.

Q5

Chosen Platform: Hyperledger Fabric

Reason:

1. Supports permissioned networks with identity management
2. Modular architecture allows customizⁿ for enterprise use cases.
3. High transaction throughput compared to public blockchain.
4. Widely used in supply chain, healthcare & finance applications.