Blockchain Development.

Q. Solve any two of the following (5 marks each)

① What is Blockchain and how does it work?
→ Blockchain is a decentralized digital ledger that records transactions securely. Each block contains data, a timestamp, and a hash of the previous block, ensuring immutability. Transactions are validated using Consensus mechanisms like Proof of Work (PoW) or Proof of Stake (PoS), making blockchain and trustless.

② What are Smart Contracts, and how do they function in Blockchain?
→ Smart Contracts are self-executing programs on the blockchain that run automatically when Conditions are met. They eliminate intermediaries, ensuring fast and secure transactions. Written in languages like Solidity, they are widely used in Defi and supply chain management.

③ What are the key benefits of Blockchain ~~Develo~~ technology?
→ 1) Decentralization - No Central authority, reducing single points of failure.
2) Security - Cryptographic encryption makes transactions tamper-proof.
3) Transparency - Transactions are visible to all participants.
4) Immutability - Data Cannot be altered once recorded.
5) Efficiency - Reduces intermediaries, speeding up processes.