**Chapter 3**

**1. What is blockchain technology?**

1. A physical chain of interconnected computers
2. A digital database where information is stored in blocks linked together
3. A type of cryptocurrency
4. A decentralized network of banks and governments

**2. What makes a blockchain secure and immutable?**

1. Centralized control
2. Third-party involvement
3. Decentralization and immutability
4. Dynamic block structure

**3. What type of transactions can be recorded on a blockchain?**

1. Only financial transactions
2. Only transactions involving government agencies

C) Transactions of money, bitcoins, contracts, property, etc.

D) Transactions involving physical goods only

**4. How are transactions verified on a blockchain?**

1. By a single central authority
2. By government agencies
3. By a network of computers
4. By third-party intermediaries

**5. What is the primary purpose of using blockchain technology?**

1. To centralize transaction verification
2. To eliminate the need for cryptographic processes
3. To decentralize transaction verification
4. To increase reliance on centralized authorities

**6. How is security maintained in blockchain?**

1. Through centralized authorities
2. By eliminating cryptographic processes
3. Through cryptographic processes performed by peer-to-peer users
4. By relying on third-party intermediaries

**7. What process ensures the security of transactions in blockchain?**

1. Data encryption
2. Data mining
3. Data verification
4. Data deletion

**8. In blockchain transactions, who verifies the validity of transactions?**

1. Centralized authorities
2. Blockchain miners
3. Third-party intermediaries
4. Peer-to-peer users

**9. When was the concept of blockchain first introduced?**

1. 1990s
2. 2000s
3. 2010s
4. 2020s

**10. Who is credited with the invention of blockchain technology?**

1. Satoshi Nakamoto
2. Vitalik Buterin
3. Hal Finney
4. Nick Szabo

**11. Which whitepaper introduced the concept of blockchain and Bitcoin?**

1. Ethereum Whitepaper
2. Ripple Whitepaper
3. Bitcoin Whitepaper
4. Hyperledger Whitepaper

**12. In what year was the Bitcoin network officially launched?**

1. 2005
2. 2009
3. 2012
4. 2017

**13. What was the original purpose of blockchain technology, as described in the Bitcoin Whitepaper?**

1. Decentralized currency
2. Secure data storage
3. Peer-to-peer networking
4. Digital identity management

**14. Which cryptocurrency was the first to implement a blockchain other than Bitcoin?**

1. Ethereum
2. Litecoin
3. Ripple
4. Dogecoin

**15. What is a key characteristic of a centralized system?**

1. Decentralized control
2. Distributed decision-making
3. Single point of control or authority
4. Shared responsibility among nodes

**16. In a decentralized system, decision-making power is:**

1. Centralized in one entity
2. Distributed among multiple entities
3. Controlled by a third-party intermediary
4. Determined by government regulations

**17. Which of the following best describes a centralized database?**

1. Data is stored across multiple nodes with equal authority
2. Data is controlled by a single entity or authority
3. Data is encrypted and distributed across a network
4. Data is verified by consensus among network participants

**18. Which type of system is more resistant to censorship and tampering?**

1. Centralized system
2. Decentralized system
3. Hybrid system
4. None of the above

**19. Which layer of the blockchain architecture represents the user interface and applications built on top of the blockchain?**

1. Application Layer
2. Execution Layer
3. Semantic Layer
4. Propagation Layer

**20.What is an example of a real-life application that belongs to the Application Layer of the blockchain architecture?**

1. Bitcoin mining
2. Ethereum-based decentralized finance (DeFi) applications
3. Smart contract execution
4. Consensus algorithm implementation