

**Dr. Babasaheb Ambedkar Open University**  
**Term End Examination January – 2026**

|              |                                 |            |                      |
|--------------|---------------------------------|------------|----------------------|
| Course       | : MSCDS                         | Date       | : 20/02/2026         |
| Subject Code | : MSCDS-305                     | Time       | : 03:00am to 05:15pm |
| Subject Name | : Blockchain and Cryptocurrency | Duration   | : 02.15 Hours        |
|              |                                 | Max. Marks | : 70                 |

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**Section A**

**Answer the following (Attempt any three) (30)**

1. Elaborate how blockchain can ensure data integrity in data science applications?
2. Write a short note on Tokenization.
3. Narrate in details about Privacy and Anonymity Mechanisms in Cryptocurrencies
4. Discuss about different block chain components in great details.
5. Explain in great details about Blockchain and Machine Learning.

**Section B**

**Answer the following (Attempt any four) (20)**

1. Explain Blockchain as a data layer for distributed applications
2. Describe in short about Public Key Infrastructure (PKI) in blockchain applications
3. What do you mean by Consensus Mechanisms? Explain in brief.
4. Write a short note on Risk Management in Cryptocurrencies.
5. Narrate about Symmetric encryption in brief .
6. Discuss in brief about Federated blockchain.

**Section C**

**Part – A (Multiple Choice Questions) (10)**

- 1 Data provenance mean \_\_\_\_\_ in the context of blockchain.  
A Tracing origin and history of data    B Deleting old data  
C Replacing blockchain nodes    D Improving RAM speed
- 2 Tokenization of assets refers to the process of converting ownership rights of real-world assets into digital tokens that can be \_\_\_\_\_ on a blockchain network.  
A Issued    B Transferred  
C Traded    D All of them
- 3 \_\_\_\_\_ blockchain type is best suited for inter-bank transactions requiring transparency and control.  
A Public    B Private  
C Consortium    D Sidechain
- 4 A public key is typically used to \_\_\_\_\_.  
A Sign transactions    B Encrypt messages for a recipient  
C Decrypt messages    D Hash passwords
- 5 \_\_\_\_\_ crypto-currency introduced the concept of smart contracts and Decentralized Applications.  
A Ripple(XRP)    B Bitcoin (BTC)  
C Litecoin (LTC)    D Ethereum (ETH)
- 6 In \_\_\_\_\_ ,Digital tokens are backed by real assets like shares or property.

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|--|----------------------------------|------------------------------------|
|  | A Initial Coin Offerings (ICO)   | B Initial Exchange Offerings (IEO) |
|  | C Security Token Offerings (STO) | D All of them                      |
- 7 DeFi stand for \_\_\_\_\_.
- |                            |                               |
|----------------------------|-------------------------------|
| A Decentralized Finance    | B Digital Finance Integration |
| C Decentralized File Index | D Digital Financial Input     |
- 8 Bitcoin follows \_\_\_\_\_ type of supply mode.
- |                |                |
|----------------|----------------|
| A Inflationary | B Deflationary |
| C Fixed        | D Unlimited    |
- 9 The "Nothing-at-Stake" problem is associated with \_\_\_\_\_ type of consensus.
- |                      |                  |
|----------------------|------------------|
| A Proof of Authority | B Proof of Stake |
| C Proof of History   | D Proof of Work  |
- 10 The \_\_\_\_\_ layer ensures that all network nodes agree on the blockchain state.
- |             |                                          |
|-------------|------------------------------------------|
| A Consensus | B Application                            |
| C Network   | D Decentralized and Distributed Database |

**Part – B (Do as Directed)**

**(10)**

- 1 Mining is the process of validating and adding new transactions to the blockchain ledger. True / False
- 2 A decentralized autonomous organization governed by smart contracts and token holders. True / False
- 3 Security Tokens provide access to a product or service within a blockchain ecosystem but don't represent ownership. True / False
- 4 The nonce is a randomly generated number used in the mining process. True / False
- 5 A zero-knowledge proof (ZKP) lets someone prove a statement is true without revealing the actual information. True / False
- 6 A Decentralized Exchange(DEX) that allows peer-to-peer trading using smart contracts. True / False
- 7 Ledger Nano is an example of a hardware wallet True / False
- 8 NFT stand for Non-Financial Token. True / False
- 9 Cryptography and decentralization make blockchain tamper-proof. True / False
- 10 Digital signatures use asymmetric cryptography. True / False

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