

RAN-2311000702010002

M. Sc. ICT (Sem.II) Examination April - 2026

Blockchain Computing (Paper - 201)

Time: 3 Hours]

[Total Marks: 70

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book.	Seat No.: <table border="1"> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> Student's Signature						

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|--------------|---|-----------|
| Q. 1. | Answer the following. (Any Seven) | 14 |
| | 1. Why are consensus mechanisms needed in blockchain? | 02 |
| | 2. Write solidity contract demonstrating constructor usage. | 02 |
| | 3. What does staking mean in blockchain? | 02 |
| | 4. How are DApps different from normal apps? | 02 |
| | 5. What is an Initial Coin Offering (ICO)? | 02 |
| | 6. What is double-spending in blockchain? | 02 |
| | 7. What are gas fees in Ethereum? | 02 |
| | 8. What is an Ethereum Virtual Machine (EVM)? | 02 |
| | 9. What is a transaction pool in blockchain? | 02 |
| Q. 2. | Answer the following. (Any Two) | 14 |
| | 1. What are blockchain forks? Explain their types. | 07 |
| | 2. Justify the importance of a decentralized blockchain system. | 07 |
| | 3. Explain permissionless blockchain with an example. | 07 |
| Q. 3. | Answer the following. (Any Two) | 14 |
| | 1. What is Consensus? Justify "PoS is better than PoW". | 07 |
| | 2. What are NFTs? Explain its types with examples. | 07 |
| | 3. What is Ethereum? Explain its Architecture in detail. | 07 |
| Q. 4. | Answer the following. (Any Two) | 14 |
| | 1. Explain blockchain transaction lifecycle. | 07 |
| | 2. What is Blockchain? Differentiate Web 2.0 V/S Web 3.0 | 07 |
| | 3. Explain Merkle Tree in detail. | 07 |
| Q. 5. | Answer the following. (Any Two) | 14 |
| | 1. How Blockchain environment is good for Insurance Records. | 07 |
| | 2. Explain the term "51% attack". | 07 |
| | 3. Write solidity contract which stores product name, price, and quantity and retrieves this information. | 07 |