RAN-2511000608044001

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M.Sc. (IT) (Sem. 8) Examination April - 2025

Blockchain Computing

Time: 3 Hours] **[Total Marks: 70**

સૂચના : / Instructions

(૧) નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of ☛ signs on your answer book

Name of the Examination:
☛ **M.Sc. (IT) (Sem. 8)**

Name of the Subject :
☛ **Blockchain Computing**

Subject Code No.: **2511000608044001**

Seat No.:

Student's Signature

Q-1. Answer the following. **[14]**

1) Why are consensus mechanisms needed in blockchain?
2) What is PBFT?
3) What is a public blockchain?
4) What are gas fees in Ethereum?
5) What does staking mean in blockchain?
6) What do validators do in Proof of Stake (PoS)?
7) Write solidity contract to store and retrieve boolean values.

Q-2. Answer the following. (Any Two) **[14]**

1) What is a block? Explain its basic structure.
2) Justify the statement "Blockchain provides transparency."
3) Explain blockchain wallets and types.

Q-3. Answer the following. (Any Two) **[14]**

1) What are blockchain forks? Explain their types.
2) Describe blockchain-based land registry systems.
3) Explain the concept of blockchain mining rewards.

Q-4. **Answer the following. (Any Two)** **[14]**

1) Explain AES in detail.
2) Explain DAO attack in Ethereum History.
3) Explain Merkle Tree in detail.

Q-5. **Answer the following. (Any Two)** **[14]**

1) Write solidity contract for basic voting facility where votes for two candidates are counted.
2) What is Blockchain? Differentiate Web 2.0 V/S Web 3.0
3) What is Consensus? Justify “PoS is better than PoW”.

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