

Code No: R204142P

R20

SET - 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM
IV B. Tech I Semester Regular/Supplementary Examinations OCT/NOV 2025
BLOCK CHAIN TECHNOLOGIES

(AI&DS, AI&ML, CSE(AI&DS), CSE(AI&ML), CSE(AI), CSE(DATA SCIENCE))

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions. **ONE** Question from **Each unit**
All Questions Carry Equal Marks

UNIT-I

1. a) Explain the difference between currency and crypto currency. [7M]
b) Describe the use of block-chain in financial services in detail. [7M]
(OR)
2. a) Explain how cryptography secures block-chain in detail. [7M]
b) Describe the concept of distributed consensus? [7M]

UNIT-II

3. a) Explain how public key cryptography secures transactions. [7M]
b) Apply blockchain to a digital art ownership case? [7M]
(OR)
4. a) Apply SHA-256 hashing to a text string. [7M]
b) Discuss differences between permissioned and permission less block-chains. [7M]

UNIT-III

5. a) Explain the role of miners in Bitcoin in detail. [7M]
b) Analyze how Gridcoin rewards scientific work? [7M]
(OR)
6. a) Explain the purpose of Gridcoin in detail. [7M]
b) Apply blockchain to online learning verification. [7M]

UNIT-IV

7. a) Explain smart contracts in Ethereum in detail. [7M]
b) Analyze Coin Drop as a public adoption strategy? [7M]
(OR)
8. a) Analyze the energy usage in mining operations in detail? [7M]
b) Explain the advantages of permissioned block-chains. [7M]

UNIT-V

9. a) Evaluate block-chain's potential in E-Governance? [7M]
b) Develop a blockchain prototype for land registration? [7M]
(OR)
10. a) Evaluate the success of block-chain pilots in governance? [7M]
b) Design a government data sharing block-chain in detail? [7M]
