

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM**  
**IV B. Tech I Semester Advanced Supplementary Examinations March 2025**  
**BLOCK CHAIN TECHNOLOGIES**

(CSE & IT)

Time: 3 hours

Max. Marks: 70

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

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**UNIT-I**

1. a) Define the term Blockchain and explain how it is changing the digitalization landscape? [7M]  
b) How is Blockchain technology useful in the financial services. Explain with an example. [7M]

(OR)

2. a) Define the term Digital trust and explain its role in a bitcoin prediction market. [7M]  
b) What is Currency and Cryptocurrency? Explain How Cryptocurrency works. [7M]

**UNIT-II**

3. a) Briefly describe the role of Hashing in Cryptosystems and explain Hash puzzles. [7M]  
b) What is the need for blockchain neutrality? Explain the neutrality principles. [7M]

(OR)

4. a) What is decentralization? And explain how blockchain technology provides digital trust using digital identity verification. [7M]  
b) Define and differentiate public and private blockchains. [7M]

**UNIT-III**

5. a) Define the term Bitcoin and explain how the Blockchain scripting language-based micropayments system works. [7M]  
b) Write short notes on Grid coin and Folding coin? [7M]

(OR)

6. a) What is Bitcoin mining? and explain the Bitcoin mining process with a diagram [7M]  
b) Explain about Bitcoin MOOCs. [7M]

**UNIT-IV**

7. a) What is consensus? and explain the consensus mechanism used in Ethereum 2.0 [7M]  
b) Explain how the “ campus coin “ benefits college and university campuses. [7M]

(OR)

8. a) Explain the Byzantine Generals Problem with a neat diagram. [7M]  
b) What is Hyperledger in blockchain? and explain Hyperledger architecture. [7M]

**UNIT-V**

9. a) Explain various business model challenges in blockchain technology with an example. [7M]  
b) How is blockchain used in E-Governance? explain by considering an example. [7M]

(OR)

10. a) What are the technical challenges in adopting blockchain technology for real-time applications? [7M]  
b) Explain the use of blockchain in Medical Information Systems. [7M]

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