

Code No.: DS731PE

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H.T.No.

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS

IV–B.TECH–I–Semester End Examinations (Supply) - December- 2025

BLOCK CHAIN TECHNOLOGY

(CSD)

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) What are Consensus algorithms? [2M]
- b) Identify the uses of Smart contracts. [2M]
- c) Define Genesis block and Merkle trees. [2M]
- d) What is an NFT? Give examples. [2M]
- e) Mention the Advantages and Disadvantages of Cryptocurrency. [2M]
- f) What is a Grid Coin? [2M]
- g) Define the term token in the context of cryptocurrencies. [2M]
- h) How can you make use of Demurrage currency? [2M]
- i) Mention challenges with the underlying Bitcoin technology. [2M]
- j) How does the business model challenges impact startups and established businesses? [2M]

PART-B

(50 Marks)

2. What is the role of miners or validators? How the Miner groups in a Block get Rewarded, and transactions are ordered? Why the digital signature is used in the transaction verification? [10M]

OR

3. Justify the need of Distributed Trust. How the transactions are initiated in the network? Interpret how the transactions are propagated in a Distributed network? [10M]
4. Discuss about Blockchain environment. What are the types of blockchain, and implementation of various platforms of Blockchain? [10M]

OR

5. Explain Blockchain Neutrality? Describe the process of enterprise integration and designing for extensibility. [10M]
6. What is Folding@home (FAH)? Explain about Folding Coin Technology and its features. What does Folding coin do? How to Buy and store FLDC? [10M]

OR

7. Explain about Bitcoin Ecosystem. Describe the types of Nodes in bitcoin. What are the Common Bitcoin Nodes in a Network? [10M]

8. Investigate the role of blockchain technology in the tokenization of assets and its impact on financial markets. Discuss the potential disruptions and innovations that blockchain can bring to asset ownership and trading. [10M]

OR

9. Analyze the concept of Campus coin as a localized digital currency for educational institutions. Discuss the advantages and disadvantages of implementing such a currency in a university setting. [10M]

10. Describe the Scandals and Public Perception of bitcoin adoption. [10M]

OR

11. Explore the relationship between government regulations and environmental sustainability. How can regulatory frameworks incentivize businesses to adopt more eco-friendly practices and technologies? [10M]
