Code No: **R194205D**

R19

Set No. 1

IV B.Tech II Semester Regular Examinations, April– 2023
BLOCK CHAINTECHNOLOGY
(Elective V for CSE & IT, Open Elective for Other Branches)

Time: 3 hours   Max. Marks: 75

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks
*****
UNIT I
1 a) What is Blockchain? Give the challenges of Blockchain in Indian Scenario.   [7]
   b) What are the restrictions on Sharing Ledgers? Explain.   [8]
(OR)
2 a) Describe the history of Blockchain.   [7]
   b) Discuss about evolution of Computer Applications.   [8]

UNIT II
3 Explain about life cycle of Blockchain transaction in detail with a neat
   diagram.   [15]
(OR)
4 Describe mining and finalization processes of blockchain.   [15]

UNIT III
5 Discuss about typical solution architecture for enterprise use cases.   [15]
(OR)
6 Describe Blockchain Solutions Reference Architecture.   [15]

UNIT IV
7 Explain about Smart Contract Programming and Integrated Development
   Environment.   [15]
(OR)
8 Discuss about OpenZeppelin Contracts Wizard in detail Give its merits and
   demerits.   [15]

UNIT V
9   Explain the Following:
   a) Hyperledger Fabric   [7]
   b) Initial Coin Offering   [8]
(OR)
10 Explain the Following:
   a) Zero-Knowledge Proofs   [7]
   b) Use Case – Car Ownership Tracking   [8]

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R19

Set No. 2

IV B.Tech II Semester Regular Examinations, April– 2023
BLOCK CHAINTECHNOLOGY
(Elective V for CSE & IT, Open Elective for Other Branches)

Time: 3 hours　　　　　　　　　　　　　　　　　　　　**Max. Marks: 75**

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

UNIT I

1	a)	What are Blockchain characteristics? Explain.	[7]
	b)	Explain about public Blockchain environments.	[8]
		(OR)	
2	a)	Write a brief introduction on Blockchain technologies.	[7]
	b)	Describe type of players in Blockchain ecosystem.	[8]

UNIT II

3	What are various types of Blockchain nodes? Explain in detail.	[15]
	(OR)	
4	What is a Consensus mechanism? What are Consensus Mechanisms in Blockchain? Explain.	[15]

UNIT III

5	Describe approach for designing Blockchain applications.	[15]
	(OR)	
6	Explain in detail about types of Blockchain applications. Describe the role of Token in Blockchain applications.	[15]

UNIT IV

7	Discuss about Truffle Framework and Ganache. How Blockchain is implemented using it?	[15]
	(OR)	
8	Describe Ethereum Accounts and My Ether Wallet in detail.	[15]

UNIT V

9		Explain the Following:	
	a)	Hyperledger Blockchain	[7]
	b)	Oracles	[8]
		(OR)	
10		Explain the Following:	
	a)	FabCar Use Case implementation	[7]
	b)	Self-Sovereign identity	[8]

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Code No: **R194205D**

R19

Set No. 3

IV B.Tech II Semester Regular Examinations, April– 2023
BLOCK CHAINTECHNOLOGY
(Elective V for CSE & IT, Open Elective for Other Branches)

Time: 3 hours **Max. Marks: 75**

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

UNIT I

1 a) What is the principle on which Blockchain technology is based on? Explain. [7]
   b) Distinguish between centralized and decentralized applications. [8]

(OR)

2 a) What is Consortium blockchain? Explain characteristics of Consortium blockchain. [7]
   b) What are challenges articulated in Blockchain? Explain. [8]

UNIT II

3 What is hashing in Blockchain? Explain The Relationship of Proof of Work in Hashing. [15]

(OR)

4 Explain in detail about data storage on Blockchain. [15]

UNIT III

5 Discuss about Blockchain Relevance evaluation framework in detail. [15]

(OR)

6 Describe architecture with Blockchain platforms. Focus on obstacles for use of Blockchain. [15]

UNIT IV

7 Discuss about Ethereum Tool Stack and Ethereum Virtual Machine. Give their merits and demerits. [15]

(OR)

8 Which consensus algorithm does Ethereum use? Explain it. [15]

UNIT V

9 Explain the Following:
   a) Invoking Chaincode functions using client application [7]
   b) Blockchain with IoT and AI/ML [8]

(OR)

10 Explain the Following:
   a) Nodes in Hyperledger fabric [7]
   b) Blockchain cloud offerings [8]

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IV B.Tech II Semester Regular Examinations, April– 2023
BLOCK CHAINTECHNOLOGY
(Elective V for CSE & IT, Open Elective for Other Branches)

Time: 3 hours   **Max. Marks: 75**

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

UNIT I

1   a)   Explain about scenarios for Blockchain.   [7]
    b)   What is a Blockchain fork? What are types of Blockchain forks?   [8]
                                        (OR)
2   a)   Who are participants on Blockchain? Explain about players in market.   [7]
    b)   Discuss about opportunities using Blockchain.   [8]

UNIT II

3   What is a Merkle Tree? What is a Merkle Root? Describe working of
    Merkle trees.   [15]
                                        (OR)
4   Define Smart Contracts. How Smart Contracts work? What are benefits and
    applications of Smart Contracts? Explain.   [15]

UNIT III

5   What are obstacles for use of Blockchain? Explain bout Cryptographic
    tokens.   [15]
                                        (OR)
6   Discuss about architectural considerations for Blockchain based systems in
    detail.   [15]

UNIT IV

7   What is the difference between Bitcoin and Ethereum blockchain? How to
    mine Ethers?   [15]
                                        (OR)
8   What is Metamask? Explain about Tuna Fish use case implementation.   [15]

UNIT V

9   Explain the Following:
    a)   Blockchain and its future potential   [7]
    b)   Hyperledger fabric transaction flow   [8]
                                        (OR)
10 Explain the Following:
    a)   Quantum computing and Blockchain   [7]
    b)   Inter Planetary File System (IPFS)   [8]

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