Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2023

Subject Code:3171618   **Date:16-12-2023**
Subject Name: Blockchain
Time: 10:30 AM TO 01:00 PM   **Total Marks:70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

Q.1	**(a)**	Blockchain-as-a-Service(BaaS) is a concept similar to Software-as-a-Service(SaaS). Justify.	**03**
	(b)	Write Application of Blockchain. Also Write Name of platform for developing blockchain application.	**04**
	(c)	Explain Proof-of-work v/s Proof-of-stake protocol.	**07**
Q.2	**(a)**	What is consensus protocol in blockchain? Explain.	**03**
	(b)	Difference between Bitcoin blockchain and Ethereum Block chain?	**04**
	(c)	Discuss Key characteristics of Consortium Blockchain in detail.	**07**
		OR	
	(c)	Explain the various hyperledger fabric tools in detail.	**07**
Q.3	**(a)**	Explain What is Metamask? How it is useful in Blockchain.	**03**
	(b)	Differentiate between Public and Private blockchain.	**04**
	(c)	Explain the structure of Blockchain eco system.	**07**
		OR	
Q.3	**(a)**	What is Hybrid Blockchain System? List and explain pros and cons of it.	**03**
	(b)	Discuss the benefits of DLT (Distributed Ledger Technology).	**04**
	(c)	Explain in detail types of cryptocurrency.	**07**
Q.4	**(a)**	Explain BFT algorithm.	**03**
	(b)	How do smart contracts reduce the transaction cost? List the benefits of smart contract.	**04**
	(c)	What is Oracles in blockchain? List and explain type of it.	**07**
		OR	
Q.4	**(a)**	Explain pBFT algorithm.	**03**
	(b)	Give the difference between Smart Contract and Traditional Contract.	**04**
	(c)	Discuss Case Study: Smart Contract in Supply Chain Management.	**07**
Q.5	**(a)**	List and explain characteristics of Smart Contract.	**03**
	(b)	How blockchain can help in immutability, disintermediation and collaboration in education sector?	**04**
	(c)	Discuss the Blockchain Implementation Limitations.	**07**
		OR	

Q.5 **(a)** Discuss the scalability issues in Blockchain.   **03**

(b) How blockchain can help in managing interoperability and accessibility in healthcare sector?   **04**

(c) Discuss the "Lack of Governance and Standard" challenge of blockchain implementation.   **07**

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