

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA SEMESTER- IV - EXAMINATION-SUMMER-2024

Subject Code: 1549614**Date: 02/05/2024****Subject Name: Blockchain Management****Time: 10:30 AM TO 01:30 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

		Marks
Q.1	Explain the following terms in short:	14
	(a) Distributed Network	
	(b) DApps.	
	(c) ScripSig	
	(d) Geneses Block	
	(e) Double spending problem	
	(f) Airdrop	
	(g) EVM	
Q.2	(a) What is Block chain? List and explain different area of applications of Block chain technology.	07
	(b) Discuss evolution of Block chain technology with its different generations.	07
OR		
	(b) What is Crypto currency? Discuss the monetary policy of Bitcoin.	07
Q.3	(a) What is smart contract? Discuss the characteristics of it.	07
	(b) What is Ethereum? How it differ from a blockchain of Bitcoin?	07
OR		
Q.3	(a) What is cryptocurrency? Discuss different types of cryptocurrencies and list their characteristics.	07
	(b) Discuss Altcoins and Tokens in brief.	07
Q.4	(a) What is consortium blockchain? Discuss key characteristics of it.	07
	(b) What is mining of cryptocurrency? Explain mining of Bitcoins in detail.	07
OR		
Q.4	(a) What are UTXOs? Discuss transactions and UTXOs with examples.	07
	(b) What is Gas? Discuss the concept of Gas in terms of Ethereum Blockchain.	07
Q.5	CASE STUDY:	
	Introduction:	
	In recent years, Blockchain technology has gained significant attention for its potential to revolutionize various industries. One such industry ripe for disruption is supply chain management. This case study explores the implementation of Blockchain technology in a fictional company, XYZ Corp, and its implications for enhancing transparency, efficiency, and in the supply chain.	

Scenario:

XYZ Corp is a multinational corporation operating in the consumer electronics industry. The company sources raw materials from multiple suppliers across the globe and manufactures electronic devices in its factories located in different countries. The supply chain involves numerous stakeholders, including suppliers, manufacturers, distributors, and retailers. However, the lack of transparency and traceability in the supply chain has led to inefficiencies, delays, and instances of counterfeit products.

Implementation of Blockchain Technology:

To address these challenges, XYZ Corp decides to implement Blockchain technology in its supply chain management processes. The company collaborates with its key suppliers and partners to establish a Blockchain-based platform that enables transparent and secure tracking of products from the raw material stage to the end consumer.

Key Features of the Blockchain Platform:

Immutable Ledger: All transactions related to the movement of goods, including procurement, manufacturing, shipping, and delivery, are recorded on the Blockchain ledger. Once recorded, the data cannot be altered or tampered with, ensuring data integrity and transparency.

Smart Contracts: Smart contracts are deployed to automate and enforce agreements between parties involved in the supply chain. These contracts execute predefined rules and trigger actions (e.g., payment release, product shipment) based on predefined conditions, thereby reducing the need for intermediaries and streamlining processes.

Traceability and Authentication: Each product is assigned a unique identifier (e.g., serial number, QR code) stored on the Blockchain. Stakeholders can track the entire journey of the product, including its origin, manufacturing process, and distribution channels, ensuring authenticity and minimizing the risk of counterfeit products entering the supply chain.

Decentralized Network: The Blockchain platform operates on a decentralized network, eliminating single points of failure and reducing the risk of data manipulation or cyber-attacks. All participants in the network have access to the same information, fostering trust and collaboration among stakeholders.

(a) How can Blockchain technology improve transparency and accountability in XYZ Corp's supply chain? What are the potential benefits and challenges associated with this enhanced transparency? 07

(b) Discuss the role of smart contracts in automating supply chain processes. What are the key advantages of using smart contracts, and how can they contribute to cost savings and efficiency gains for XYZ Corp? 07

OR

(a) What measures should XYZ Corp take to ensure the security and integrity of its Blockchain-based supply chain platform? How can the company mitigate the risks associated with data breaches or cyber-attacks? 07

(b) How might the adoption of Blockchain technology impact relationships with existing suppliers and partners? What strategies can XYZ Corp implement to facilitate the transition to a Blockchain-enabled supply chain and ensure buy-in from all stakeholders? 07
