

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA-SEMESTER-IV-EXAMINATION-SUMMER-2025

Subject Code: 1549614**Date: 11/06/2025****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.

- Q.1 Define following terms briefly: 14**
- (a) Permissioned blockchain
 - (b) Encryption
 - (c) Hyperledger
 - (d) Blocks in block chain
 - (e) Smart contracts
 - (f) Crypto mining
 - (g) Bitcoin
- Q.2 (a) What do you mean by “Blockchain”? Discuss components of blockchain in brief. 07**
- (b) What is Consensus algorithm? What are the types of consensus algorithms? 07**
- OR**
- (b) Discuss key characteristics of Consortium Blockchain in detail. 07**
- Q.3 (a) Explain and Difference between Bit coin block chain and Ethereum Block chain? 07**
- (b) What is “Hash” in blockchain? What are the key characteristics of Hash? 07**
- OR**
- Q.3 (a) Explain the term “Cryptocurrency”? Explain in detail types of cryptocurrencies. 07**
- (b) Explain Digital Signature importance in blockchain. 07**
- Q.4 (a) Explain Different Algorithms of Permissioned Blockchain. 07**
- (b) Describe the key characteristics of public blockchain. In which situation permissionless blockchain can be used? 07**
- OR**
- Q.4 (a) Describe the distinct characteristics of Cryptocurrency that set it apart from traditional currency. 07**
- (b) Blockchain is a distributed database. How does it differ from traditional databases? 07**

The UAE: Launch of government blockchain initiatives

Under the auspices of the mandate to digitize the UAE, both the federal and local government have taken active steps in exploring and adopting blockchain technology across government services. In recent years, the country witnessed the launch of the **Emirates Blockchain Strategy 2021 and Dubai Blockchain Strategy 2020** to enhance government services, develop industry and promote innovation in the space.

Emirates Blockchain Strategy:

In 2018, under the supervision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, the UAE government launched the Emirates Blockchain Strategy 2021. The strategy focuses on four main themes: happiness of citizens and residents; elevating government efficiency; advanced legislation; and international leadership.

The UAE government, as a part of its digital transformation efforts, decided to capitalize on blockchain technology to transform government transactions on the federal level, 50% of which will be conducted using blockchain by 2021.

Technological adoption at such a scale will support government preparation for future challenges by optimizing the transaction processing time and resources required, decreasing the ecological footprint by reducing the number of printed documents, and providing digital flexibility to the people to process their transactions at a time and place suited to their lifestyle and work.

By adopting blockchain technology, the UAE government expects to save:

- US\$3 billion in transactions and documents processed routinely
- 398 million printed documents annually
- 77 million work hours annually

The use of blockchain technology will not only allow operational cost reduction but will support the digital security of national documents and transactions, as well as accelerating decision-making processes.

Dubai Blockchain Strategy:

The Dubai Blockchain Strategy, launched in October 2016 by His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Executive Council, was the result of a collaboration between the Smart Dubai Office and the Dubai Future Foundation to continuously explore and evaluate the latest technology

innovations that demonstrate an opportunity to deliver more seamless, safe, efficient and impactful city experiences.

The strategy establishes a roadmap for the introduction of blockchain technology for Dubai and the creation of an open platform to share the technology with cities across the globe. The Dubai Blockchain Strategy is built on three pillars of government efficiency, industry creation and international leadership.

- **Government efficiency:** under this pillar, the strategy will contribute to increased government efficiency by implementing blockchain and enabling a paperless digital layer for all applicable government services.
- **Industry creation:** this will support the creation of a blockchain industry by providing an enabling environment that encourages start-ups and businesses.
- **Leadership:** in line with the third pillar, Dubai aims to lead the global thinking on blockchain technology and become the hub for blockchain intellectual capital and skill development.

Questions:

(a) According to you what kind of advantages UAE will get after implementation of Blockchain technology in their country? Discuss. 7

(b) If you were at the administrative position in government of UAE, what factors you should consider before implementing Blockchain in UAE? 7

OR

(a) According to you what kind of challenges UAE will get after implementation of Blockchain technology in their country? Discuss. 7

(b) If you were at the administrative position in government of UAE, what security measures you would like to take before and after implementation of Blockchain based system? Discuss. 7
