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| **SESSION** | **July 2023** |
| **PROGRAM** | **MASTER OF BUSINESS ADMINISTRATION (MBA)** |
| **SEMESTER** | **IV** |
| **course CODE & NAME** | **DITF403 Crypto-currency and Blockchain** |
| **CREDITS** | **04** |
| **nUMBER OF ASSIGNMENTS & Marks** | **02**  **30 MARKS EACH** |

**Assignment Set – 1**

**1a. How does a cryptocurrency differ from traditional forms of currency?**  
**Ans 1a.**

**Cryptocurrency vs. Traditional Currency:**

Cryptocurrency differs from traditional forms of currency (also known as fiat currency) in several ways:

1. Digital Nature: Cryptocurrencies exist solely in digital form and are decentralized. They are not physical coins or notes like traditional currencies.

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**1b. What is Bitcoin and how does it work?**

**Ans 1b.**

**Bitcoin and How It Works:**

Bitcoin is the first and most well-known cryptocurrency, created by an individual or group using the pseudonym Satoshi Nakamoto. It was introduced in a whitepaper titled "Bitcoin: A Peer-to-Peer Electronic Cash System" in 2008. Here's how Bitcoin works:

**2a. How does an ERP system handle data integration and synchronization across different departments?**

**Ans 2a.**

An ERP (Enterprise Resource Planning) system handles data integration and synchronization across different departments by providing a centralized platform that houses all the relevant data and processes for an organization. Here's how it typically works:

**2b. How does blockchain technology improve data transparency and trust compared to a centralized database used in ERP systems?**

**Ans 2b.**

Blockchain technology improves data transparency and trust compared to a centralized database used in ERP systems through the following mechanisms:

1. Decentralization: In a blockchain, data is distributed across a network of nodes, Top of Form

**3a. Are there any specific industries or sectors that have successfully implemented blockchain and ERP together?**

**Ans 3a.**

Yes, there are several industries and sectors that have successfully implemented blockchain technology and Enterprise Resource Planning (ERP) systems together to enhance various aspects of their operations. Some of these industries include:

**3b. What role does consensus play in blockchain technology, and how does it differ from the decision-making process in an ERP system?**

**Ans 3b.**

Consensus in blockchain technology refers to the mechanism by which participants in a network come to an agreement on the state of the blockchain. It ensures that all participants have a shared, consistent view of the data and transactions recorded on the blockchain.

**Assignment Set – 2**

**4a. How does the CAP theorem impact the design and operation of blockchain networks?**

**Ans 4a.**

The CAP theorem, also known as Brewer's theorem, states that in a distributed system, you can achieve at most two out of three properties: Consistency, Availability, and Partition tolerance. In the context of blockchain networks, this theorem has important implications for

**4b. How does blockchain ensure the security of transactions?**

**Ans 4b.**

**Blockchain ensures the security of transactions through the following mechanisms:**

1. Decentralization: Blockchain operates as a decentralized network of nodes, where transactions are verified and added to the shared ledger through consensus mechanisms. This decentralization prevents a single point of failure and makes it

**5a. How does consensus work in a blockchain network?**

**Ans 5a.**

Consensus in a blockchain network refers to the process by which participants in the network agree on the state of the blockchain's ledger. Since blockchain operates in a decentralized and trustless environment, achieving consensus is crucial to ensure that all participants have a

**b. What are the potential future developments in the blockchain technology landscape?**

**Ans 5b.**

The potential future developments in the blockchain technology landscape are vast and evolving. Some of the trends and developments that might shape the future of blockchain include:

1. **Scalability Solutions:** As blockchain networks like Bitcoin and Ethereum face

**6a. Explain the concept of smart contracts and their role in automating transactions in the supply chain.**

**Ans 6a.**

**Smart Contracts and Supply Chain Automation:** A smart contract is a self-executing contract with the terms of the agreement directly written into code. It runs on a blockchain network and automatically enforces the terms and conditions of an agreement when

**6b. How does blockchain technology ensure the immutability and integrity of land registry records, preventing unauthorized changes and reducing the risk of fraud?**

**Ans 6b.**

**Blockchain and Land Registry Records:** Blockchain technology ensures the immutability and integrity of land registry records through its unique properties. Land registry records are crucial for establishing ownership rights and preventing fraudulent activities. Here's how