



School: Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

Date:

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiment : Blockchain in Supply Chains – Use Case Analysis

Objective/Aim:

To study how **blockchain technology** enhances transparency, traceability, and efficiency in **supply chain management**, and to analyze a real-world use case.

Apparatus/Software Used:

- VS code
- Brave for searching
- MetaMask wallet

Theory concept:

A supply chain involves the movement of goods and data from production to final delivery. Traditional supply chains often face problems such as fraud, data tampering, and lack of real-time tracking. Blockchain technology solves these by providing a decentralized, tamper-proof ledger that records every transaction or transfer across the network.

Key Concepts:

- **Transparency:** All participants can view transaction history securely.
- **Traceability:** Every product movement is recorded from source to consumer.
- **Smart Contracts:** Automate payments and logistics processes.
- **Immutability:** Records cannot be altered once verified.
- **Decentralization:** Removes the need for intermediaries, reducing cost and delay.

Procedure:

- **Select a Use Case:** Choose a real-world blockchain-based supply chain (e.g., IBM Food Trust or VeChain).
- **Understand the Problem:** Identify key challenges (e.g., counterfeit goods, data loss).
- **Analyze Blockchain Role:** Examine how blockchain features (immutability, transparency) solve these issues.
- **Study Process Flow:** Trace how data is recorded at each supply chain stage (production → packaging → shipping → retail).
- **Identify Participants:** Note all stakeholders — manufacturers, distributors, retailers, and consumers.
- **Review Smart Contract Use:** Understand how automation and payments are managed.
- **Evaluate Results:** Note efficiency improvements, reduced fraud, and trust increase.
- **Document Findings:** Record key benefits, challenges, and outcomes.

Observation:

Understanding tokenomics is essential for evaluating a cryptocurrency's real-world potential. Projects with transparent distribution, clear utility, and controlled inflation models are more likely to achieve long-term success.

ASSESSMENT

| Rubrics | Full Mark | Marks Obtained | Remarks |
|--|-----------|----------------|---------|
| Concept | 10 | | |
| Planning and Execution/ Practical Simulation/ Programming | 10 | | |
| Result and Interpretation | 10 | | |
| Record of Applied and Action Learning | 10 | | |
| Viva | 10 | | |
| Total | 50 | | |

Signature of the Student:

Name :

Regn. No. :

Signature of the Faculty:

Page No.

** As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.*