Centurion University
Shaping Lives... Empowering Communities...

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 Experiement : Blockchain in Supply Chains – Use Case Analysis

Objective/Aim:

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

Apparatus/Software Used:

- Internet access for research and simulation tools
- Flowchart or diagram software (draw.io / PowerPoint)
- Blockchain demo simulator (optional)
- Whitepaper or case study (e.g., IBM Food Trust, VeChain)

Theory/Concept:

A **supply chain** involves multiple entities — manufacturers, transporters, warehouses,

retailers, and customers — working together to deliver a product.
Traditional systems suffer from **lack of transparency, fraud, and delays** due to centralized data storage.

Blockchain in Supply Chain introduces:

- **Transparency:** Immutable ledger shared by all participants.
- **Traceability:** Every product movement is recorded on-chain.
- **Trust:** Data can't be tampered with or deleted.
- **Automation:** Smart contracts handle payments and verifications automatically.

Example Platforms:

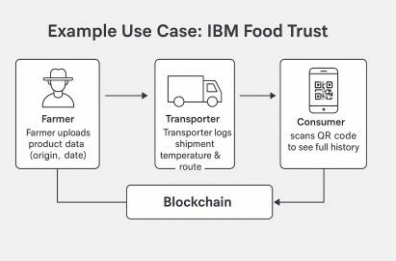
- **IBM Food Trust (Hyperledger Fabric)** – Tracks food products from farms to shelves.
- **VeChainThor Blockchain** – Used for luxury goods and logistics tracking.

Procedure:

1. Identify a real-world supply chain (e.g., food, pharmaceuticals, electronics).
2. Research how blockchain is integrated in that system.
3. Map each participant: producer → distributor → retailer → consumer.
4. Analyze how transactions are recorded on the blockchain.
5. Note the benefits (transparency, speed, fraud prevention) and limitations (cost, integration).
6. Draw a simplified workflow diagram showing blockchain checkpoints.

Example Use Case: IBM Food Trust

- **Step 1:** Farmer uploads product data (origin, date).
- **Step 2:** Transporter logs shipment temperature & route.
- **Step 3:** Retailer verifies data before display.
- **Step 4:** Consumer scans QR code to see full history.



Observation Table:

Parameter	Traditional Supply Chain	Blockchain-Enabled Supply Chain
Data Storage	Centralized (can be altered)	Decentralized (immutable)
Transparency	Low	High (shared ledger for all parties)
Traceability	Difficult to track product history	Each step recorded with timestamps
Fraud / Counterfeiting	Common in luxury & pharma goods	Greatly reduced through authenticity logs
Speed of Verification	Manual checks	Automated smart contract validation

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: