| g Centurion UNIVERSITY Shaping Lines Empowering Communities | School: | Campus: | |
|---|-----------------------------------|----------------------|--|
| | Academic Year: Subject Name: | Subject Code: | |
| | Semester: Program: Bra | nch: Specialization: | |
| Empowering Communities | Date: | | |
| Applied and Action Learning | | | |
| | (Learning by Doing and Discovery) | | |

Name of the Experiement: Hash Your First Block – Blockchain Basics and Setup

Objective/Aim:

To study understands the concept of hashing in blockchain, create your first hash, and explore how blocks work.

Apparatus/Software Used:

- Laptop/PC
- PowerPoint/Word for documentation
- Brave Browser
- Blockchain demo

Theory/Concept:

Q1. What is blockchain?

Ans: - Blockchain is a shared digital ledger that records transactions across many computers (nodes).

- Data can't be changed or deleted once stored.
- Changes require control of over **51%** of the network.
- First used in **Bitcoin** (2008) by **Satoshi Nakamoto**.

Key features: -

Key features include a distributed ledger for transparency, immutable records that cannot be altered, smart contracts that execute automatically when conditions are met, and public key cryptography for secure transactions.

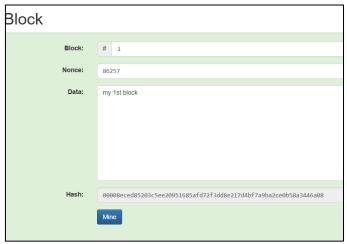
Distributed Ledger Technology (DLT) – All participants share the same copy of the ledger, ensuring transparency.

Immutable Records – Once recorded, data cannot be changed or deleted.

Procedure:

- Step 1: Open the Blockchain Demo site. (Blockchain Demo)
- Step 2: Click in to the block.
- Step 2: Enter the data and you will notice that with the data the hash also changes and then mine it.





After giving data After mining

Observation Table: -

| Previous hash | After adding data |
|--|---|
| 8224102b3c6ab6b6a23e2d27c683de77873880c7a088e66428578f27d3c66242 | 00008eced85203c5ee20951685afd72f3dd8e217d4bf7a9ba2ce0b58a3446a0 |

ASSESSMENT

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

Signature of the Faculty:

Signature of the Student:

Name:

Regn. No.