



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 Experiment :** 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.

**Block**

Block: # 1

Nonce: 72608

Data: my 1st block

Hash: 8224102b3c6ab6b6a23e2d27c683de77873880c7a088e66428578f27d3c66242

[Mine](#)

**After giving data**

**Block**

Block: # 1

Nonce: 86257

Data: my 1st block

Hash: 00008eced85203c5ee20951685afd72f3dd8e217d4bf7a9ba2ce0b58a3446a08

[Mine](#)

**After mining**

**Observation Table: -**

Previous hash	After adding data
8224102b3c6ab6b6a23e2d27c683de77873880c7a088e66428578f27d3c66242	00008eced85203c5ee20951685afd72f3dd8e217d4bf7a9ba2ce0b58a3446a08

**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		
<b>Total</b>	<b>50</b>		

**Signature of the Faculty:**

**Signature of the Student:**

**Name :**

**Regn. No.**