Tribute For	School:	Campus:			
	Academic Year: Subject Name:	Subject Code:			
Centurion UNIVERSITY Shaping Lives Empowering Communities	Semester: Program: Branch:	Specialization:			
	Date:				
	Applied and Action Learning (Learning by Doing and Discovery)				

Name of the Experiement: Frontend Connect – Web3.js Integration

# **Coding Phase: Pseudo Code/Flow Chart/Algorithm**

- 1. Start React project using npx create-react-app.
- 2. Install web3 library.
- 3. Create .env file with:
- 4. In app.js:
- Import Web3 and connect to MetaMask.
- Load contract using ABI & address from .env.
- Fetch storedData using contract.methods.get().call().
- Send transaction using contract.methods.set(value).send().
- 5. Test the frontend by setting and getting values.

# **Apparatus/Software Used:**

- Node.js & npm
- React.js
- Web3.js
- MetaMask
- Network: Sepolia Testnet

### **Testing Phase:**

- Deployed SimpleStorage contract to Sepolia using Remix.
- Noted the contract address & ABI.
- Created .env file to store sensitive data.
- Connected frontend to MetaMask.
- Verified:
- Reading stored value works.
- Writing new value updates blockchain data.

## **Implementation Phase: Final Output (no error)**

Step 1: Create a smart contract in remix IDE.

Step 2: Create a React app in VS Code.

- Open VS Code.
- Open a terminal inside of VS Code.
- Run this code (npx create-react-app simple-storage-web3).
- Then run cd simple-storage-web3.
- Then install web3 like run this code(npm install web3).

Step 3: Create a .env File.

• Write The deployed contract address from Remix or blockchain explorer.

```
REACT_APP_CONTRACT_ADDRESS =0xC63E45B99635Abbf2f35d861465f876AD73acAc6
REACT_APP_NETWORK=sepolia
```

Step 4: Connect in src/App.js

• Replace App.js with something like:

```
Import Mortin "web":

Journal Web Firm Web Firm "web Firm Web Firm
```

Step 5: Run the App

• In terminal: npm start

Step 6: After run this open React app at <a href="http://localhost:3000">http://localhost:3000</a>.

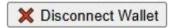




- Then connect the meta mask.
- Then Enter some value and set value.



Connected: 0xC63E45B99635Abbf2f35d861465f876AD73acAc6



#### Stored Value:

500 Update

Retrieve Latest Data

# **Observations**

- MetaMask allowed account access and transaction confirmation.
- Updating values from frontend reflected immediately on blockchain

#### **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 Student:

Name:

Signature of the Faculty:

Regn. No. :

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