



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 : ERC-20 Basics – Tokenization Concepts

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

1. Start

2. Open Remix IDE and select Solidity environment.
3. Write ERC-20 token contract code using **OpenZeppelin** template.
4. Compile the smart contract.
5. Connect **MetaMask** to **Sepolia Testnet** (or other testnet).
6. Deploy the contract through Remix (Injected Web3).
7. Copy the deployed **contract address**.
8. Import the token in MetaMask using its contract address.
9. Open a DeFi DEX (e.g., **Uniswap testnet**).
10. Connect wallet, select tokens (ETH → Deployed Token/DAI).
11. Enter swap amount and confirm the transaction in MetaMask.
12. Verify updated balance in MetaMask.

13. Stop

Software used

1. MetaMask Wallet
2. Remix IDE.
3. MS Word.
4. Brave for researching.

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

* Implementation Phase: Final Output (no error)

- Open Remix IDE and create a new Solidity file.
- Paste ERC-20 token code from OpenZeppelin and customize (name, symbol, supply).
- Compile the file using Solidity 0.8.x compiler.
- Connect MetaMask to Sepolia Testnet.
- Deploy the token contract from Remix using “Injected Web3.”
- Approve the deployment transaction in MetaMask.
- Copy the deployed contract address from Remix.
- In MetaMask, go to **Import Tokens** and paste the contract address.
- Open Uniswap testnet, connect MetaMask.
- Swap ETH to your deployed token or DAI.
- Confirm transaction in MetaMask and wait for it to process (~12 seconds).
- Check updated token balance in MetaMask; manually import token if not visible.

* Observations:

- Writing (set) requires gas and confirmation from MetaMask.
- Reading (get) is free and fast.
- Updates reflect in UI once the transaction is confirmed.

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:

Signature of the Faculty:

Name :

Regn. No. :