



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.

### \* 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		
<b>Total</b>	<b>50</b>		

**Signature of the Student:**

Name :

Regn. No. :

**Signature of the Faculty:**