



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 :** Tokenomics 101 - Analyzing Crypto Economic

### Objective/Aim:

- To learn the fundamental concepts of tokenomics (token economics) in blockchain technology, including how tokens are created, distributed, and managed.
- To study how different blockchain projects design token models to encourage decentralization, reward participation, and maintain the overall stability of the ecosystem.

### Apparatus/Software Used:

- Laptop
- MetaMask wallet extension
- Visual Studio Code (VS Code)
- **Etherscan** → For Ethereum-based tokens (ERC-20, ERC-721)
- CoinMarketCap- for real-world token data and analysis
- **Remix IDE** for ERC-20 token creation and deployment

### Theory/Concept:

The term **tokenomics** combines “*token*” and “*economics*”, referring to the study of how digital tokens operate within blockchain environments. It deals with the economic system that supports a cryptocurrency or digital token — covering aspects such as creation, supply, demand, distribution, and incentives. Tokens act as the core units of value within blockchain ecosystems and serve multiple purposes depending on their type.

#### Types of Tokens:

1. **Utility Tokens:**  
Used to access specific services or functions within a blockchain ecosystem (e.g., ETH for gas fees).
2. **Governance Tokens:**  
Provide holders the right to vote on project-related decisions or protocol changes.
3. **Security Tokens:**  
Represent real-world assets or investment contracts and often fall under regulatory frameworks.
4. **Stablecoins:**  
Pegged to fiat currency or assets to reduce volatility (e.g., USDT, DAI).

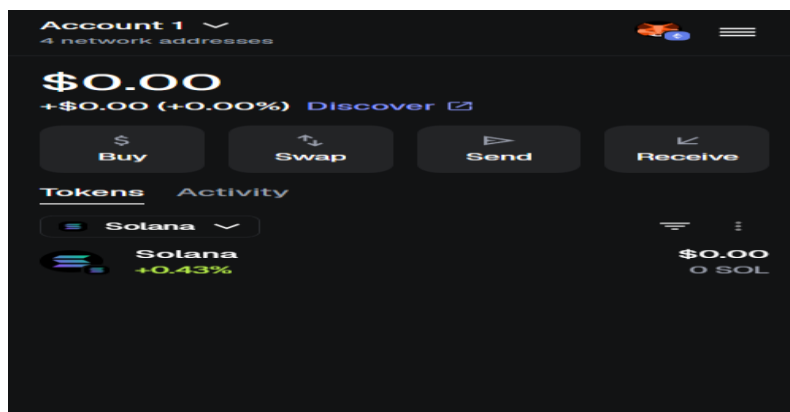
#### Core Elements of Tokenomics:

- **Token Supply:**
  - *Total Supply:* The maximum number of tokens that can ever exist.
  - *Circulating Supply:* The number of tokens currently in the market.
  - *Inflation/Deflation Models:* Methods such as token minting or burning to regulate supply.
- **Distribution Methods:**
  - *ICO / Airdrops:* Tokens are distributed to investors or early users.
  - *Mining or Staking Rewards:* Tokens are given as rewards to active participants maintaining the network.
- **Incentive Models:**  
Encourage users and developers to contribute positively through staking, liquidity mining, or governance voting.
- **Utility and Market Demand:**  
A token’s value depends on how much it is used within the ecosystem and how scarce it is.
- **Governance and Treasury Systems:**  
Many decentralized projects maintain a treasury fund for development, grants, or future improvements.

## Procedure:

- **Design a Token Model:**  
Define token details such as name, symbol, total supply, and decimal units.
- **Deploy Token on Local Blockchain:**  
Use **Remix IDE** and **Ganache** to deploy an ERC-20 smart contract.
- **Token Distribution:**  
Assign a certain amount of tokens to different wallets (developers, users, validators, etc.).
- **Simulate Token Transfers:**  
Use **MetaMask** to transfer tokens between accounts and observe changes in balance and gas usage.
- **Analyze Token Metrics:**  
Study token supply, distribution, and transaction history using tools like **Etherscan** or analytics dashboards.
- **Demonstrate Token Utility:**  
Show how tokens are used for staking, governance, or paying transaction fees..
- **Evaluate Economic Sustainability:**  
Examine if the token model supports long-term participation and maintains value stability.

## Observation Table:



## 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.