



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:

- o 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).

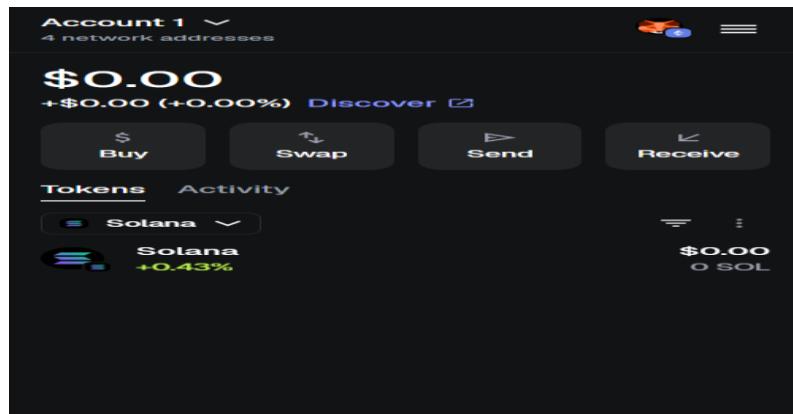
Core Elements of Tokenomics:

- **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		
Total	50		

Signature of the Student:
Name : _____
RegnNo. _____

Signature of the Faculty: