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 Experiement : Wallet Walkthrough – Hands-on Wallet Setup

Objective/Aim:

- To learn how to set up and use a browser-based cryptocurrency wallet such as MetaMask.
- To understand the functionalities and components of crypto wallets.
- To interact with blockchain networks using the wallet (e.g., sending/receiving tokens).
- To explore basic concepts like testnets, gas fees, and simulate mining.

Apparatus/Software Used:

- Laptop/PC
- Word for documentation
- Internet for research
- Meta Mask

Theory/Concept:

A **cryptocurrency wallet** is a tool that allows users to manage blockchain assets by securely storing public and private keys. Browser extensions like **MetaMask** serve as gateways for interacting with decentralized applications (dApps).

Key Terms:

- **Public Key**: Your wallet's visible address used to receive crypto (e.g., starts with `0x...`).
- **Private Key / Seed Phrase**: A confidential set of words used to restore wallet access—never share it.
- **Browser Wallet**: A wallet like MetaMask or Trust Wallet Web that functions as a browser add-on for easy interaction with dApps.
- **Gas Fees**: Small fees required for transactions on networks like Ethereum.
- **Mining (Browser-based)**: The act of validating blockchain transactions using CPU power; not common for Ethereum, but some blockchains (like Monero) still support browser-based mining for educational use.

Procedure:

Step 1: Installing MetaMask

1. Open a supported browser (e.g., Chrome, Firefox, or Brave).
2. Visit https://metamask.io and click **Download**.
3. Install the MetaMask extension into your browser.

Step 2: Creating a New Wallet

1. Click on the MetaMask icon and choose **"Get Started"**, then **"Create a Wallet"**.
2. Set a strong and secure password.
3. Save your **12-word seed phrase** in a secure location.
4. Confirm the phrase to complete the wallet setup.

Step 3: Exploring the Wallet Dashboard

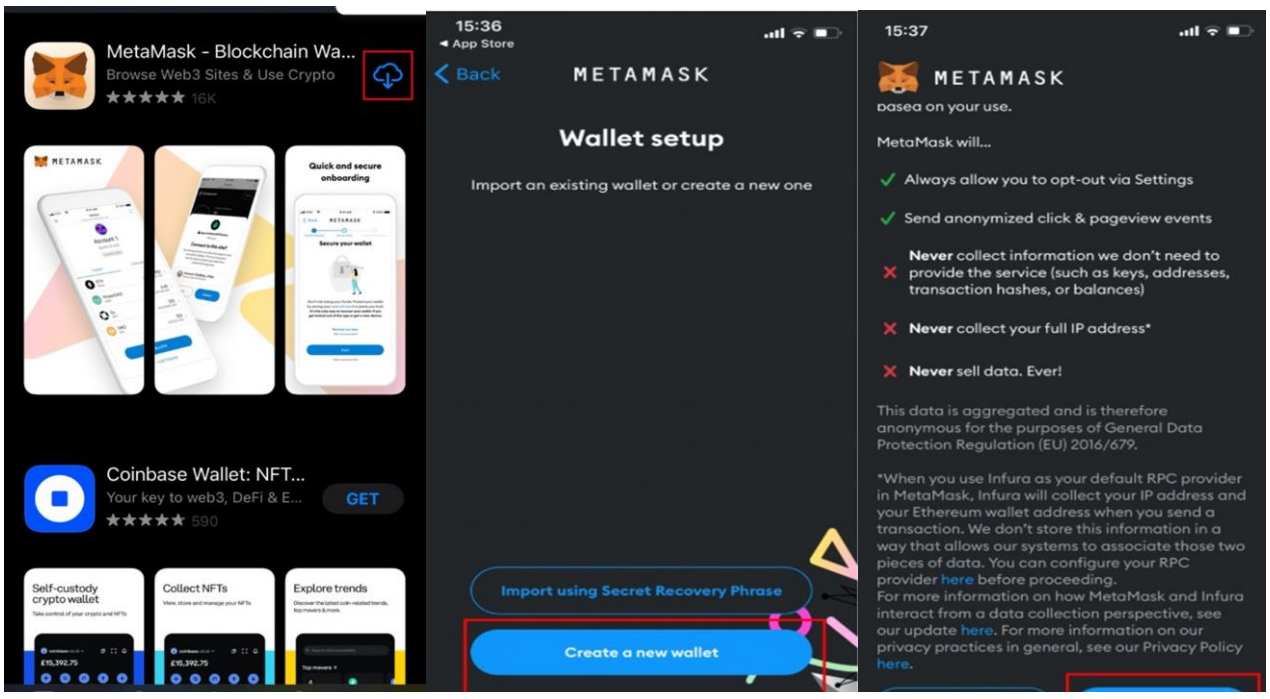
- View your **Wallet Address** (e.g., starts with `0x...`)
- Use the **Network Selector** to switch between Ethereum Mainnet or Testnets
- Check your **ETH/token Balance**
- Try out **Send**, **Receive**, or **Swap** functionalities

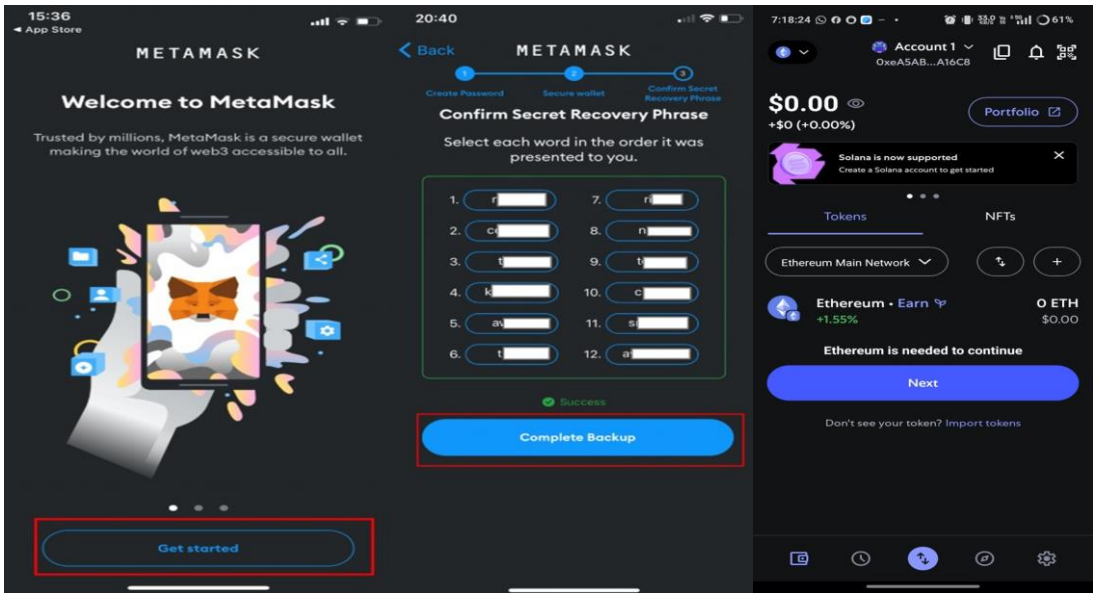
Step 4: Adding a Test Network (Optional)

1. Navigate to **Settings → Networks → Add Network**.
2. Add a testnet like **Goerli**.
3. Visit a **faucet** website to receive free test ETH.

Step 5: Simulating Mining (For Educational Purpose)

1. Open a browser-based mining simulator (e.g., Monero Web Miner).
2. Monitor CPU usage and observe hash rates and simulated earnings.





Observation Table:

Sl. No.	Step	Observation / Output
1	Installed MetaMask	Extension added to browser
2	Created Wallet	Wallet created; seed phrase generated
3	Wallet Interface	Address: `0x...`, Network: Ethereum Mainnet
4	Received Test ETH (Goerli)	Wallet shows balance of 0.1 Goerli ETH
5	Tried sending tokens	Transaction sent; pending then confirmed
6	Visited browser mining site	CPU usage spiked, hash rate observed
7	Mining status	Hash rate: ~20 H/s, Earnings: 0.000001 XMR

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 Faculty:

Signature of the Student:

Name :

Regn.No.