Applied and Action Learning
(Learning by Doing and Discovery)

Name of the Experiment: Wallet Walkthrough – Hands-on Wallet Setup

*Objective/Aim:

➢ The main objective is to understand through the process of setting up a cryptocurrency wallet like MetaMak and understanding its key components.

➢ It aims to build practical skills in managing wallet addresses, securing private keys, and performing basic transactions on the blockchain.

*Software Used

➢ Laptop

➢ MetaMask browser extension

➢ Internet for Research

*Theory/Concept :

A **cryptocurrency wallet** is a fundamental tool that allows users to interact with blockchain networks. It is not a physical wallet that stores coins, but rather a **software or hardware interface** that manages cryptographic keys used to access and control digital assets on a blockchain.

Key concepts:

Private Key: A secret alphanumeric string that acts like a password and gives full control over the funds in a wallet. It must be kept secure and never shared.

Public Key: Derived from the private key, it can be shared with others to receive funds.

Address: A hashed version of the public key used for transactions (like an account number)

Seed Phrase (Mnemonic Phrase) : A seed phrase is a human-readable backup of a private key, usually 12 or 24 words.It allows users to restore their wallet on any compatible wallet app

Gas fees : small transaction fees on Ethereum networks.

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

* Procedure:

1. Install MetaMask Extension:

➢ Open our web browser (Chrome, Firefox, Brave, or Edge).

➢ Go to the official MetaMask website: https://metamask.io

➢ Click "Download" → Choose your browser.

➢ Add the MetaMask extension to our browser.

➢ After installation, click the MetaMask fox icon in the browser toolbar to begin setup.

2. Create a New Wallet:

➢ Click "Get Started".

➢ Choose "Create a Wallet".

➢ Set a strong password (minimum 8 characters) → Click Create.

➢ MetaMask will show a Secret Backup Phrase (Seed Phrase):

➢ Click "Click to Reveal Secret Words".

➢ Write down the 12-word seed phrase on paper and store it safely offline.

➢ Confirm the phrase in the correct order to proceed.

3. Wallet Ready – User Interface Overview

➢ After creating the wallet, we'll see the MetaMask dashboard:

➢ Account Name & Address (e.g., 0x1234...)

➢ Network Selector (Default: Ethereum Mainnet)

➢ Balance (will be 0 initially)

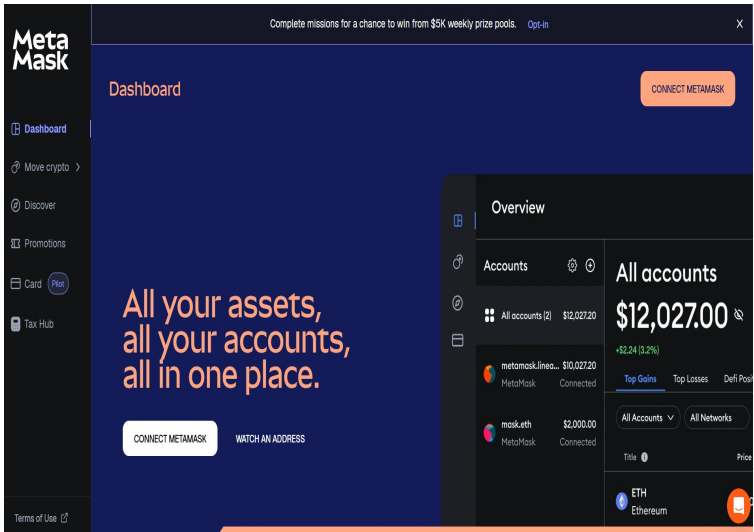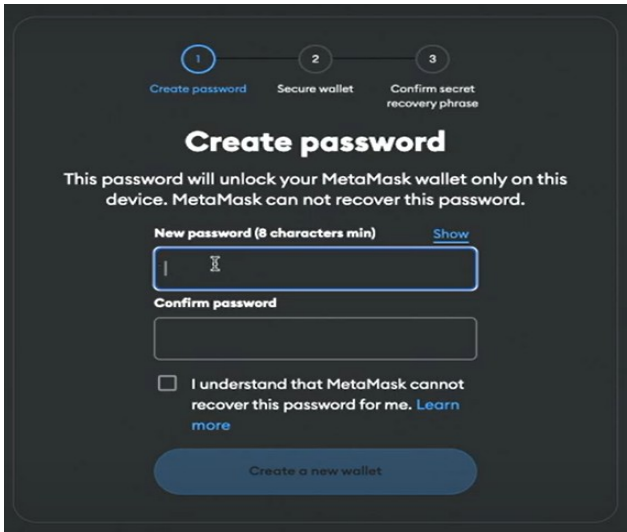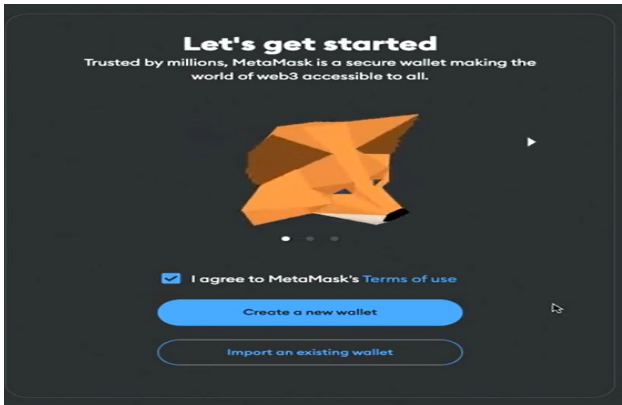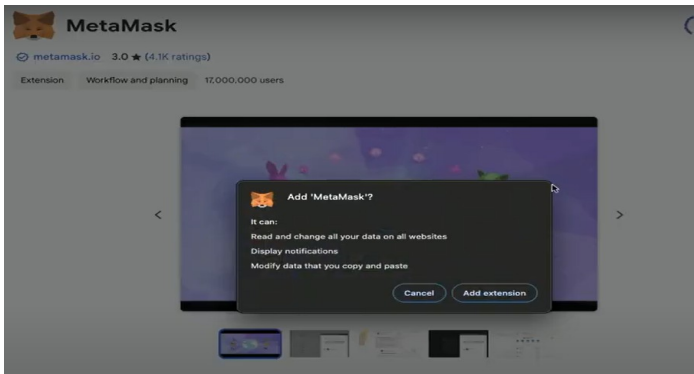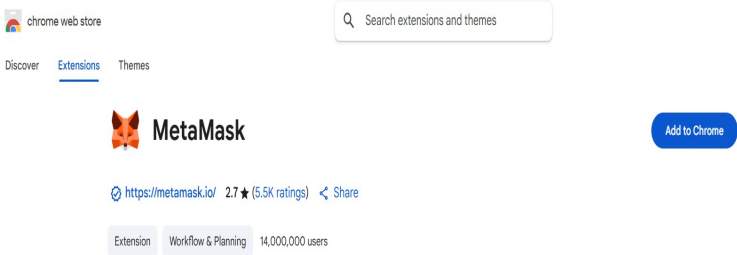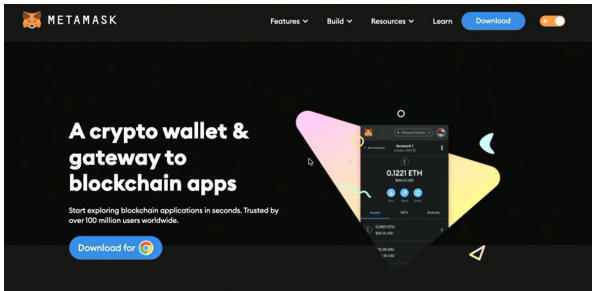➢ Buttons: Buy, Send, Swap, Activity, and NFTs

4. Connect to a Test Network :

Click the network dropdown → Select "Show test networks" in settings.

Enable and switch to Sepolia Testnet.

5. Simulate Mining

*Implementation phase: final output(no error)

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* Observation

Sl no.	Step/Activity	Observation
01	MetaMask installation	MetaMask extension was successfully added to the browser from the official website.
02	Wallet creation	A new wallet was created with a strong password and a 12-word seed phrase.
03	Secret recovery phrase	The seed phrase was revealed and stored securely offline as a backup.
04	Wallet dashboard access	The MetaMask UI showed the wallet address, network, and 0 ETH balance.
05	Connect to a Test Network	Wallet was switched to the Sepolia Testnet for safe testing.
06	Receiving Test ETH from Faucet	ETH was successfully received from the faucet and reflected in the wallet.
07	Transaction confirmation	Transaction took a few seconds to confirm and was visible on Etherscan.
08	Blockchain interaction	Wallet signed the transaction and interacted with the blockchain without errors.
09	Mining/Validation	Observed that validators (not users) confirm transactions in Ethereum PoS

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 :

Signature of the Faculty :

Regn. No. :

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