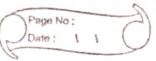
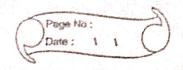
Assignment No: 01



Title: Installation of MetaMask and study spending Ether per transaction. Objective: Students should be able to learn new tech. such as metamask. Its app. and implementations. Prerequisite: 1. Basic knowledge of cryptocurrency. 2. Basic knowledge of distributed computing concept. 3. Working of blockchain. Theory: Introduction to Blockchain: - Blockchain can be described as a data structure that holds transactional records and while ensuring security, transparency and decentralization. - A blockchain is a distributed ledger that is completely open to any everyone on the network. - Fach transaction on a blockchain is secured with a digital signature that proves its authencity. - Due to the use of encryption & digital signatures, the data stored on the blockchain is tamper-proof and cannot be changed. Decentralized: No single person or group holds the authority of the overall network. Peer-to-Peer Network: It allows all the network participanto to hold an identical copy of transactions, enabling approval through a machine consensus

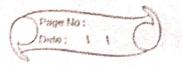
Immutable: It refers to the fact that any data once

written on the blockchain cannot be changed



4	Tamper-Proof: They are considered tamper-proof as any
	change in even one block can be detected and addressed
	smoothly.
ją.	
•	Benefits:
1	Time saving
2	Cost - saving
3	Tighter security
	How to use MetaMask: Step-by-step
48	
	Step 1: Install Meta Mask on your browser.
- 6 - 1 - 24 - 34 - 42 - 42 - 42 - 42 - 42 - 42	Stép 2: Create an account.
	Step 8: Depositing funds
•	What advantages does MetaMask have?
* * /* 1 . !	Popular: It is commonly used, so users only need
	one plugin to access a wide range of apps.
2.	Simple: Instead of managing private keys, users just
	need to remember a list of words and transactions
	are signed on their behalf.
. ઉ∙	
	blockchain, as MetaMask sends requests to nodes outside
	of the user's computer.
4,	Integrated: Dapps are designed to work with MetaMask,
	so it becomes much easier to send Ether in & out.
	Conclusion: In this way we have explored concept
	blockchain and metamat wallet for transaction of digital
	Currency.

Assignment No: 02

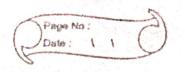


- Title: Create your own wallet using MetaMask for crypto transactions.
- Objective: Brudents should be able to learn about cryptocurrencies and learn how transaction done by using different digital currency.
- Prerequiaite: 1. Basic knowledge of cryptocurrency 2. Wooking of blockchain.

Theory:

Introduction to Cryptocurrency:

- Cryptocurrency is a digital payment system that doesn't rely on banks to verify transactions.
- It's a peer- to peer system that can enable anyone anywhere to send and receive payments.
- Cryptocurrency is stored in a digital wallet.
- The first emptocurrency was Bitcoin, which was founded in 2009 and remains the best known today.
- How does emplocurrency works?
 - It works/run on a distributed public ledger called blockchain, a record of all transactions updated and held by currency holders.
 - Units of cryptocurrency are created through a process called mining, which involves using computer power to solve complicated mathematical problems that generate coins.
 - Users can also buy the currencies from brokers, then store and spend them using cryptographic wallets.



Cnyptocurrency example:

1) Bitcoin: Founded in 2009, Bitcoin was first cnyptocurrency and is still the most commonly traded. The currency was developed by Batoshi Nakamoto-widely believed to be a pseudonym for an individual or group of people whose precise identify remains unknown.

2) Ethereum: Developed in 2015, Ethereum is a blockchain

- Platform with its own enjplocurrency, called Ether (ETH)

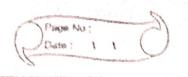
 It is the most popular enjplocurrency after bitcoin.
- Ditecoin: This currency is most similar to bitcoin but has moved more quickly to develop new innovations, including faster payments.
- Al Ripple: It is a distributed ledger system that was founded in 2012. It can be used to track different kinds of transactions, not just crypto.
- How to store comptocurrency?

 Once you have purchased emptocurrency, you need to store it safely to protect it from hacks or theft.

 Usually, emptocurrency is stored in empto wallets, which are physical devices or online softwares used to store the private keys to your emptocurrencies securely.

 There are different wallet providers to change from
 - There are different wallet providers to choose from.
 The terms "hot wallet" and "cold wallet" are used:

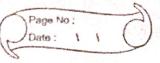
Il Hot wallet storage: It refers to crypto storage that uses online software to protect the private



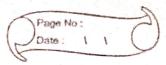
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- 2) Cold wallet storage: Unlike hot wallets, cold wallets rely on offline electronic devices to securely stora your private keys.
- Conclusion: In this way we have explored concept of enyptocurrency and learn how transactions are done using digital currency.

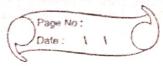
Assignment No: 03



Title: Write a smart contract on a test network, for bank account of a customer for following operations: - Deposit money - Withdraw money - Show balance Objective: Students should be able to learn new tech. such as metamask. Its app. and implementations. Prerequisite: 1. Basic knowledge of cryptocurrency 2. Basic knowledge of distributed computing concept 3. Working of blockchain Contents of theory: The contract will allow deposits from any account and can he trusted to allow withdrawls only by accounts that have sufficient funds to cover the requested withdrawl. contract TipJar & address owner: //current owner of the contract Function TipTar() public ? owner = mag. sender; function withdraw () public ? require (owner == mag. sender); msg. sender. transfer (address (this). balance); function deposit (uint 256 amount) public payable of require (meg. value == amount);



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	function withdraw (uint256 amount) public of
	require (amount <= bolanceOP [msq. sender]);
	balance OF [mag. sender] -= amount;
	mag. sender. transfer (amount);
	3
	3
	The code above demonstrates the following:
	• The require (amount <= balances [mag. sender]) checks to
	make sure the sender has difficient funds to cover the
	requested withdrawl. If not then the transaction abouts
	without making any state changes or ether transfers.
	. The balance of mapping must be updated to reflect the
	lowered residual amount after the withdrawl.
4 .	. The funds must be sent to the sender requesting the
Paint II Andrews and the second	withdrawl.
•	Conclusion: Hence we have written a smart contract
<u>-</u> 2	on a test network, for bank account of a customer.