

# Cryptocurrency

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## What is cryptocurrency -

- It is a digital currency that uses cryptography to secure digital transactions
- It does not have any central or regulating body for transactions
- It works on blockchain
- It is a peer-to-peer system
- The transactions are recorded in a public ledger
- The cryptocurrency is stored in digital wallets
- 1st cryptocurrency is Bitcoin
- While transferring crypto the units or digital addresses are transferred in actual
- These units are created using mining
- Mining is the process of generating cryptocurrency by solving complex mathematics using programming

## Bitcoin -

- It is the 1st cryptocurrency introduced in 2009 by an anonymous developer called as Satoshi Nakamoto
- It is created, transferred and stored using blockchain
- When blockchain developers do mining new bitcoins are introduced into the network
- Bitcoin is given as reward to the miners
- They are secured by proof of work or POW consensus also called as mining
- Bitcoin can be divisible to 8 decimal places
- That is we can divide a bitcoin in 100 million small portions and can transfer it
- It uses SHA-256 for encryption purpose on blockchain
- When we solve the hash generated using SHA-256 then we mine new bitcoins
- It is difficult to solve a hash because of the vast blockchain network

## Crypto coin vs token -

- Coins have their own blockchain network or they are built in in the blockchain
- Tokens do not have their own blockchain network they use network of other coins
- For example Ethereum is a coin having its own blockchain network
- While Basic Attention Token or BAT is a token of Brave browser built on ERC20 token of Ethereum network
- Tokens can be used for various purposes like for smart contracts
- Coins are actual a digital currency while tokens are digital representation of some physical asset.

## Types of cryptocurrency -

### 1. Utility token

It is a type of token used to access services of the platform that issued the token.

It act as a utility

The BAT token can be used as utility to give rewards to the user and the user can tip the creators they like.

The user can redeem these token also.

2. Security token

They are used to hold a bond, share or representation of any asset.

For example we can hold X amount of gold in a Security token and store it

Security token do not do anything they just hold assets.

There is lot of regulation involved in this token

3. Payment token

They are used to buy or sell services online.

Most of the bitcoins or tokens fall in this category

Ex. Bitcoin, Ethereum

4. Exchange token

They are used to swap the tokens from one platform to another

IF we wanted to convert one type of token to another then we use these platforms

Ex. BAT can be converted to USD by Gemini USD or Uphold USD

5. Non fungible token

These are digital certificate of ownership of items which are unique, non replacable, non tradable, one of kind

These are used to represent art like photos, memes, songs, movies, tweets, etc.

Ex. Tweeter founder Jack Dorsey's 1st tweet, Logan Pauls video clips, etc.

6. Stablecoins

These are tokens whose value remains almost stable

They are backed by stable value asset like Fiat money, gold, silver, etc.

Ex. Gemini Dollar, Tether

7. Central Bank Digital Currency (CBDC)

These are cryptocurrency issued by central bank of respective country

Ex. The RBI may introduce Digital Rupee as CBDC

Cryptocurrency usage -

Points that can be asked,

- Is cryptocurrency is safe to use or not
- Is cryptocurrency legal
- Why it is popular
- Current trend
- For what purposes it is used

Crypto-wallet and its types -

- A crypto wallet is a software that stores public and private keys.
- A public key is known to everyone and anyone can send crypto currency to you using your public key
- A public key is used to receive money
- A private key is used to send money from your wallet to another
- We can check our balance using wallet

Types -

Software wallets -

- These are wallets in the form of desktop or mobile application or a web based software.
- They come with the risk of cyber attack.
- The developers of these software store the public and private keys of users on their servers
- So in short the wallet is in the control of the software providing authority

#### Hardware wallets -

- These are wallets that work from local computers or devices
- They come in the form of remote drives like pen drives
- The keys are stored on these drives
- When we want to transact then just plug in the drives otherwise unplug them
- Cost is high

#### Paper wallets -

- These are in the form of paper on which public and private keys are written along with QR code
- These are very safest form of wallets because they are not on internet
- But practically there are not useful
- The paper may get lost or torn

#### Metamask -

- It is a crypto wallet for Ethereum cryptocurrency
- It is a browser plugin and it can store Ethereum and ERC20 tokens
- It is like an interface for crypto world
- It acts as a gateway to Web3 or Cryptocurrency or blockchain technology
- By using it we can access dApps, DeFi, NFT
- It stores public and private keys on the browser itself
- It is a Software based wallet
- It also provides security from attackers by protecting the private key
- Metamask also provides backup option in case of we lose our account or we have to log on to another computer
- Account backup is provided using a 12 word phrase which is provided while creating an account
- After entering the phrase we can get our funds back

#### Advantages -

- Can access wide range of dApps
- Easy to use
- Saves space as it is a browser plugin

#### Disadvantages -

- The keys are stored on browser and they are prone to cyber attack

#### Coinbase -

- It is a software based crypto wallet
- It is available on smart phones and for browsers

- It operates from local devices
- It stores keys on device itself
- It is more secure than Metamask because keys are stores on local device
- It also uses 12 word phrase recovery system like Metamask
- Coinbase wallet supports many cryptocurrencies like Bitcoin, Ethereum, Litecoin, etc
- It provides storage for NFTs
- Interest can earned from the coins we store in wallet

#### Binance -

- Binance is the official wallet for Binance cryptocurrency
- It is available for Chrome, Firefox and Brave
- It also supports Ethereum
- It is a software based crypto wallet
- Has built in exchange functionality
- Not good for beginners