SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

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DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

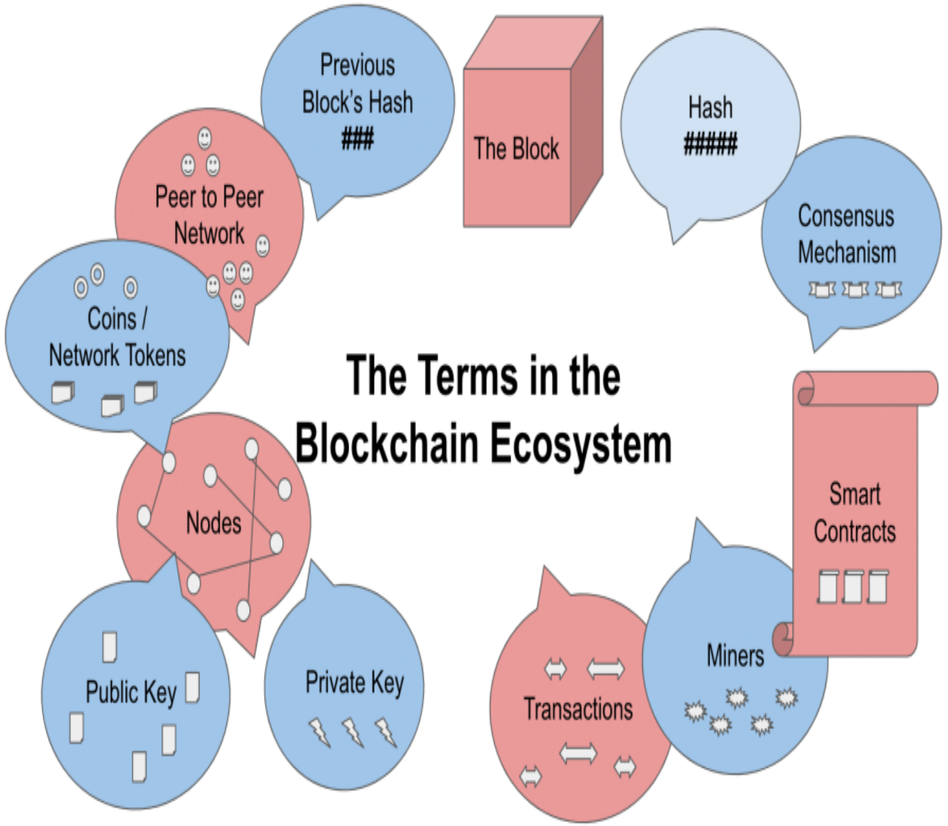
COURSE NAME: 19CS622-Blockchain Technology

IV YEAR /VI SEMESTER

Unit 1- INTRODUCTION TO BLOCKCHAIN

Topic 4 : Blockchain Ecosystem

Ecosystem


Previous Block's Hash ###
The Block
Hash #####
Peer to Peer Network
Consensus Mechanism
Coins / Network Tokens
The Terms in the Blockchain Ecosystem
Smart Contracts
Nodes
Public Key
Private Key
Transactions
Miners

Block chain Ecosystem

- Blocks – are the basic data structures that form the Block chain.
  - Each Block holds information, is identified by a unique hash, and holds the hash address of the previous block.
- Node – is an authorized user of the block chain.
  - A person with a computing machine can participate in the building and mining blocks in the blockchain network.
- Hash – A unique key that identifies the Block.

Block chain Ecosystem

- Previous Block Hash – The hash address of the previous block to which the current block is connected.
- Private key – a cryptographic version of identity – is a unique identifier of the candidate and can enable a person to perform a digital signature.

- Public Key – a cryptographic key – which helps to identify a node in the blockchain network

Block chain Ecosystem

- Peer-to-Peer network – the group of nodes who are a part of the Blockchain.
- Transactions – any interaction which involves an information exchange in terms of bitcoin investments, video content sharing, or medical record processing – is a blockchain transaction.
- Miners – The nodes which participate in the validation of new Blocks or transactions.
- Consensus Mechanism – the process by which the miners validate a block. For example, Proof of Work or Proof of Stake.

Block chain Ecosystem

- Network tokens – the cryptocurrencies, for example, bitcoins – can be used to incentivize blockchain transactions in monetary terms.
- Smart contracts – can be thought of as a Piece of code – where all the rules are predefined to govern a transaction. And it is signed with the help of a private key.
  - These are digital forms of legal contracts.
- Cryptocurrency – is one of the use-cases built on Blockchain technology. Within a few lines of code, you can create a code that identifies a physical good, real estate, asset, or access rights.

References

TEXT BOOKS

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2. Imran Bashir, “Mastering Blockchain: Distributed Ledger Technology, Decentralization and Smart Contracts Explained”, Second Edition, Packt Publishing, 2018.
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3. Arvind Narayanan, “Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction”, Princeton University Press, July 19, 2016.
4. Henning Diedrich, Ethereum: Block chains, Digital Assets, Smart Contracts, Decentralized Autonomous Organizations-2016

Thank You