



# **SNS COLLEGE OF ENGINEERING**

Kurumbapalayam (Po), Coimbatore – 641 107

**An Autonomous Institution**

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade

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## **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**COURSE NAME: 19CS622-Blockchain Technology**

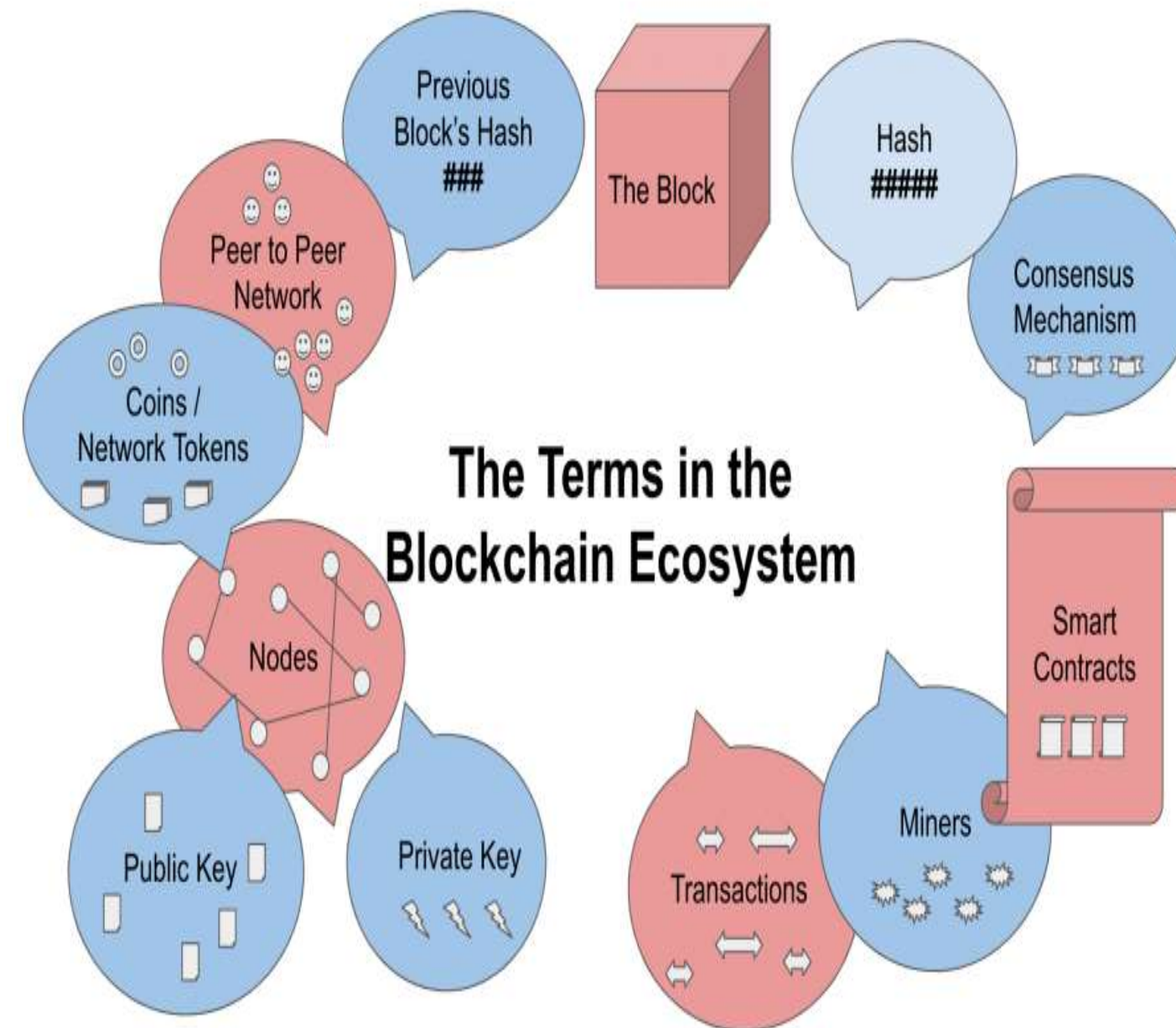
**III YEAR /VI SEMESTER**

**Unit 1- INTRODUCTION TO BLOCKCHAIN**

**Topic 4 : Blockchain Ecosystem**



# Ecosystem





# 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.
3. <https://101blockchains.com/blockchain-vs-database-the-difference/>

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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