SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

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DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

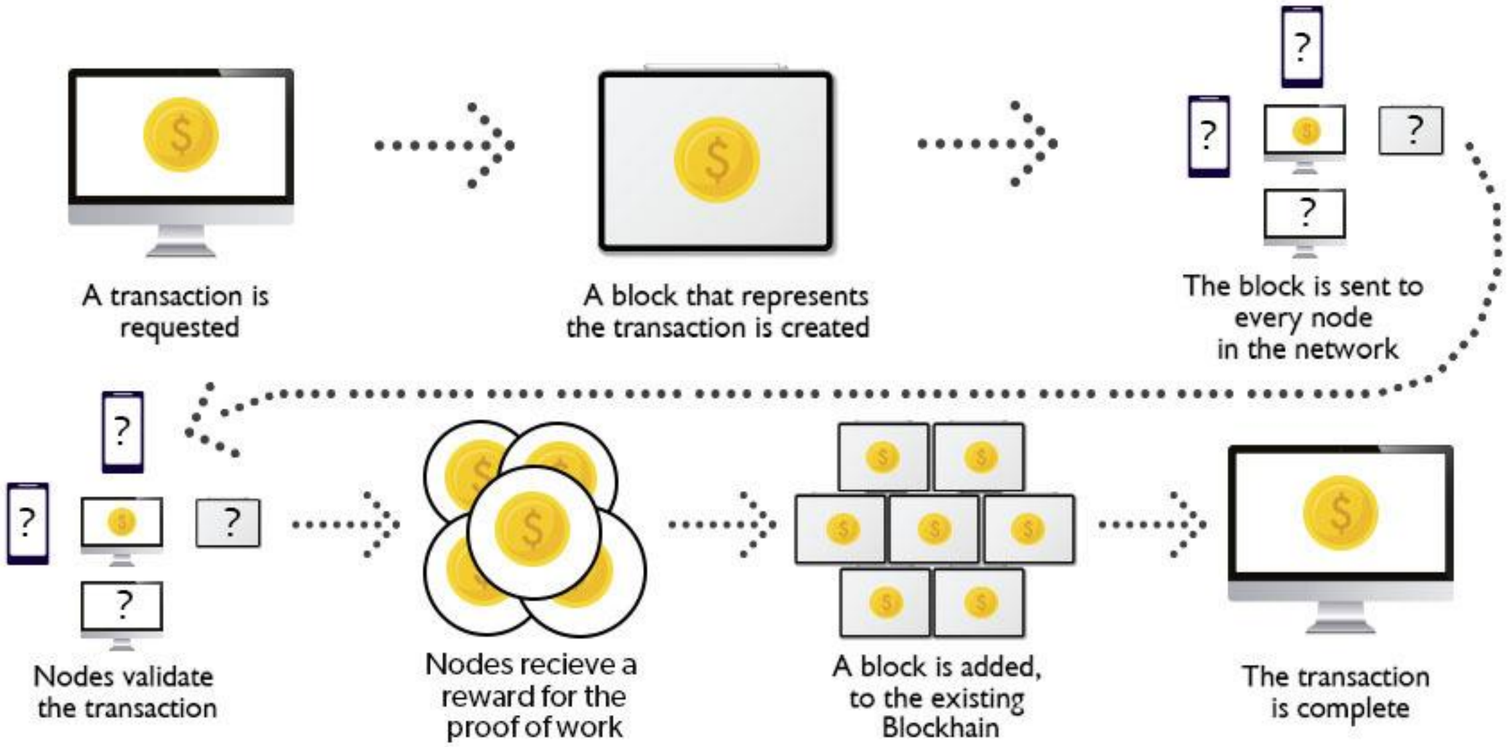
COURSE NAME: 19OE201-Blockchain Technology

IV YEAR /VII SEMESTER

Unit 1- INTRODUCTION TO BLOCKCHAIN

Working of a Blockchain

How Blockchain Works?



Working of a Blockchain

1. **Facilitating a transaction:** A new transaction enters the blockchain network. All the information that needs to be transmitted is doubly encrypted using public and private keys.

2. Verification of transaction: The transaction is then transmitted to the network of peer-to-peer computers distributed across the world.

All the nodes on the network will check for the validity of the transaction like if a sufficient balance is available for carrying out the transaction.

Working of a Blockchain

3. Formation of a new block: In a typical blockchain network there are many nodes and many transactions get verified at a time.

1. Once the transaction is verified and declared a legitimate transaction, it will be added to the mempool.
2. All the verified transactions at a particular node form a mempool and such multiple mempools form a block.

Working of a Blockchain

4. Consensus Algorithm:

The consensus algorithm creates a hash code for that new block which is required to add the block to the blockchain.

5. Addition of the new block to the blockchain:

- After the newly created block has got its hash value and is authenticated, now it is ready to be added to the blockchain.
- In every block, there is a hash value of the previous block and that is how the blocks are cryptographically linked to each other to form a blockchain.

Working of a Blockchain

6. Transaction complete:

- As soon as the block is added to the blockchain the transaction is completed and the details of this transaction are permanently stored in the blockchain.
- Anyone can fetch the details of the transaction and confirm the transaction.

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