# Priyadarshini College of Engineering, Nagpur Department of Computer Technology Session 2023-24

**Question Bank**

# Subject: Blockchain and it’s Applications

**Unit 1**

* What are the various Myths regarding Blockchain. 3M
* What is Decentralization? Explain with the help of supply chain management
* example. 7M
* Discuss decentralization with a Blockchain. 4M
* Discuss Cryptographic Hash Functions with properties. 6M
* Discus SHA256 Algorithm with processing. 7M
* What is Hash Pointer? Discuss temper detection using hash chain 7M
* Explain Markle tree 5M
* Explain public key cryptography. 6M
* Discuss RSA algorithm with an example. 7M
* Numerical RSA 7M
* What is Digital Signature? Explain 7M
* Explain Distributed Consensus 6M
* Explain Cryptocurrencies and its evolution. 7M

# Unit 2

* What is Nonce? How it is used to solve puzzle in blockchain? 7M
* Discuss DLTs and DApps. 4M
* What are smart Contracts. 4M
* Define Blockchain and explain structure of Block 6M
* Explain block header 6M
* What are Bitcoin scripts? Explain with example. 7M
* What are the steps for joining a bitcoin network? Explain 7M
* Discuss Creation of Coins. 4M
* What is double Spending? Explain how double spending is handled 7M using blockchain.
* Discuss Anonymity in bitcoin 4M

# Unit 3

* Explain Permissionless Blockchain. Discuss consensus challenges in permissionless blockchain
* Differentiate Permissioned and Permission less Blockchain
* Discuss
  1. Proof of Work(PoW) II. Proof of Stack III. Proof of Burn

IV. Proof of Elapsed Time

* Describe about working with Consensus in Bitcoin in detail.
* Draw and explain Ehthereum Network.
* Discuss Go Ethereum (Geth)
* Discuss Gas
* What is the use of eth\_sendTransaction
* Discuss DAPPS in Ethereum
* Discuss web3.js
* Discuss

1. Ethereum Smart Contracts
2. Ethereum Virtual Machine - EVM
3. Solidity

* Discuss Permissioned model with an example.
* Discuss Smart Contracts over Closed Networks
* Discuss Smart Contract as State Machines
* Discuss State Machine Replication
* What are the various Faults in a Distributed Systems? Explain
* Explain Asynchronous Consensus with Crash Faults
* Discuss CFT Consensus
* Discuss CFT in an synchronous System and in an Asynchronous System
* What is Paxos?Explain Paxos algorith
* Explain Byzantine Faults and Byzantine Agreement Protocols