Module 1

What is a block header? How are blocks linked in blockchain?

Short note on Key features of blockchain

Define blockchain and example with suitable example

What problems are associated with a centralized system?..

Differentiate between centralized, decentralized, and distributed architecture

Explain with a suitable diagram, the simplified architecture of a blockchain

State and explain different components or elements of a blockchain.

How External Applications Interact with the Blockchain Ledger?

What are blockchain events?

Compare and contrast the CAP theorem and the Byzantine Generals Problem in the context of Blockchain.

Explain the difference between DLT and Blockchain.

What is dlt?

Define the technical define of bc,elements,advantages ,features and types

What is merkle tree explain structure of merkle tree

Explain block in blockchain structure of block , block header hash and block height

Module 2

Explain Simplified Payment Verification Nodes. What is the Privacy solution for SPV nodes?

What is a Blockchain fork? Differentiate between soft fork and hard fork.

Explain bitcoin mining with the help of a neat diagram.

Short note on UTXO in Bitcoin

Explain the concept of a Bitcoin wallet. Describe the process of Bitcoin mining and its relation to the Difficulty levels. Compare Bitcoin's network architecture with traditional Peer-to-Peer networks. Explain bitcoin network concept.

Module 3

What is nonce in blockchain and how does it work?

Differentiate between Bitcoin blockchain and Ethereum Blockchain.

Explain different List and explain the parts of EVM memory.

Short note EOA and contracts address .

| With the help of a suitable diagram explain the life-cycle of a smart contract in Ethereum. |
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Define Ethereum and its version 1.0 and 2.0. Explain the concept of an Ethereum wallet Discuss the differences between Ethereum's EVM and Bitcoin's technology Program in solidity programming to implement multilevel inheritance. Ethereum wallet and its types

Module 4

Enumerate the interoperability and scalability issues in Hyperledger fabric.

Describe the various projects covered under Hyperledger umbrella projects.

Certificate Authority

RAFT Designing Hyperledger Blockchain What is hyper ledger? What it is required ? explain hyper ledger fabric tools and architectures.

Enumerate the interoperability and scalability issues in Hyperledger fabric.

Explain in detail Channels in Hyperledger Fabric Write a short note on scalability in blockchain

Define Hyperledger Fabric and draw the reference architecture services of Hyperledger Fabric and explain each component?

Module 5

List the different advantages and disadvantages of ICO.

Differentiate between ico and sto.

What is an ERC20 token? Explain the steps to create ERC20 tokens.

Stock Trading Offering .

comparison between ERC20 & ERC721 Different Crypto currencies Dont learn just upur upur se - Explain the term cryptocurrency cyrptoassests and token in detail.

differentiate between cryptocurrency and tokens.

Module 6

Discuss the different challenges addressed by blockchain in the Energy sector.

Blockchain in IoT., Blockchain in AI ,, Blockchain in Cyber Security

Discuss various applications of iot, AI and blockchain

How blockchain is revolutionilizing the traditional business network? Explain. Also Discuss

the shortcomings of current transaction systems?

2. What is the need of Consensus Algorithms in Blockchain and explain Proof-of-Work (PoW)

and Proof-of-Burn (PoB) algorithms in detail?

3. What are cryptographic hash functions, asymmetric cryptography and digital signatures?

How are they utilized to help make blockchain technology verifiable and immutable?

4. Write short note on Ethereum Virtual Machine? What are the two types of accounts that

exist in Ethereum. Explain? Explain any five standard fields in Ethereum transactions

5. What is bit coin? Explain working mechanism of bit coin with transaction and structure?

Explain Bitcoin Improvement Proposals (BIPs).

6. What is wallet in bitcoin? Explain in detail about the different types of wallet with example?

What is unspent transaction output (UTXO)? Explain with example

2. Describe about CAP theorem and block chain. Also discuss about benefits and limitations of

block chain technology?

3. Compare permissioned and permissionless type of Blockchain? Explain any one platform of

each type?

4. What are decentralized applications (DApps)? What has been the usage and why haven’t any

DApps yet received wide consumer adoption?

5. How critical are the technical and commercial challenges—scalability, efficiency, privacy,

security, interoperability—of current blockchain technology?

What are the key blockchain inspired features of Corda and Hyperledger Fabric? What are

the business tradeoffs of utilizing a permissioned vs. a permissionless application? What are

the tradeoffs for consumers?

With a labelled diagram and workflow explain how blockchain based transition happens

Explain in detail Stock Trading Offering