1. How can Blockchain be applied in the Automotive Industry?

2. Explain the potential use of Blockchain in the Healthcare sector.

3. Describe Blockchain's role in the Media and Entertainment industry.

4. How can Blockchain enhance efficiency in the Insurance sector?

5. Discuss Blockchain applications in the Government sector.

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1. Compare Externally Owned Accounts (EOA) and Contract Accounts.

2. How is crowdfunding managed using Smart Contracts?

3. What is the Smart Contract Life Cycle?

4. What factors affect the cost of Smart Contract execution?

5. Describe the changes brought by the London Hard Fork Update in Ethereum.

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1. How does Algorand achieve resistance to 51% attacks?

2. Explain a Sharding-based Consensus Algorithm.

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1. What is the architecture and working process of Hyperledger Fabric?

2. Describe the frameworks and tools used in Hyperledger Fabric.

3. Explain the transaction flow within Hyperledger Fabric.

4. What is the architecture of Azure Workbench?

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1. Discuss the concept of Zero-Knowledge Systems in Blockchain.

2. What are Verifiable Random Functions, and how do they work?

3. Define a Puzzle-Friendly Hash and its applications.

4. Explain what makes a hash function collision-resistant.

5. Outline the features and structure of the Bitcoin Scripting Language.

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1. Describe a Sybil Attack and how it impacts Blockchain networks.

2. What is a 51% Attack, and why is it significant?

3. Explain the Race Attack in Blockchain.

4. How does a Finney Attack occur?

5. Discuss Selfish Mining and its implications for Blockchain.

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1. What are the properties and roles of Hash Functions in Blockchain?

2. Compare Proof of Work (PoW) and Proof of Stake (PoS) mechanisms.

3. Explain the concept and use of Digital Signatures in Blockchain.

4. What are Cryptographic Primitives, and how are they applied in Blockchain?

5. Discuss Public Key Cryptography (PKC) and algorithms like RSA and ECDSA in detail.

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1. Explain the differences between Soft Forks and Hard Forks in Blockchain.

2. What are the types of Blockchains, and what are their advantages and disadvantages?

3. Why is Distributed Record Keeping important?

4. Outline the features of Blockchain with a detailed explanation.

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1. Write a Solidity program to check if a number is an Armstrong number of any length.

2. How can a calculator be implemented in Solidity to perform basic operations like addition, subtraction, multiplication, division, and modulus?

3. Provide a Solidity program to find the factorial of a given number.

4. Write a Solidity script to print the first 10 Fibonacci numbers.

5. Develop a Solidity program to check whether a number is Prime.

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1. If the difficulty is 63 and 2016 blocks are mined in 10 days, what will the next difficulty level be? Use the ceiling function.

2. Calculate the difficulty adjustment when the last 2016 blocks were mined in 1,500,000,000 milliseconds (previous difficulty = 15,000).

3. If the difficulty was set to 20 and 2016 blocks were mined in 1,119,100 milliseconds, what would the new difficulty level be after 2 weeks? Use the ceiling function.