Blockchain

Exam CBDE

BTA Certified Blockchain Developer - Ethereum

Version: 6.0

[Total Questions: 102]

Question No : 1

PoS:

A. would be better, because it can reduce the amount of energy needed for mining.
B. would be worse, because it would increase the amount of energy needed for mining.

Answer: A

Question No : 2

Proof of Work (PoW) vs. Proof of Stake.

A. PoW is computationally intensive which requires lots of energy. On the other hand, miners earn straightforward a reward for mining a block and incorporating transactions.
B. PoW is better than PoS, because with PoS we increase the amount of energy spent on the network.
C. PoS is mining with specialized new hardware that has to be purchased with a stack of Ether in the network. Hence the Name: Proof of Stake, which derives from Stack.

Answer: A

Question No : 3

All low-level functions on the address, so address.send(), address.call.valueQQ, address.callcode and address.delegatecall:

A. are interrupting execution on error, because they throw an exception.
B. continuing execution on error silently, which is the reason why they are so dangerous.
C. returning Booleans to indicate an error during execution.
D. .send() throws an exception, while the other functions are returning Booleans during execution to indicate an error.

Answer: C

Question No : 4

Unit-Testing on a local chain is important, because it helps you:

A. to run tests quickly and especially for free, compared to continuous deployment on the MainNetwork. This way you save a lot of fees, time and costs.
B. to run tests in an environment where logging is activated. On the Main-Net you have no access to transaction logs and this is ultimately the information you need to debug your contracts.
C. to avoid regression bugs with contracts that are updated constantly on the main-net. Once you update a contract on the main-net, the address stays the same, but the code changes and this can have disastrous side-effects.

Answer: A

Question No : 5

Inheritance is useful, because a contract that is derived from another contract can make use of:

A. all public state variables and properties, public and internal functions and modifiers.
B. all public and private state variables, public, internal and external functions, but not modifiers
C. all public state variables and properties, public functions and modifiers, but not internal, external or private ones.

Answer: A

Question No : 6

Externally Owned Accounts (EoA):

A. are changing their address every time a Transaction is sent because of the nonce.
B. are keeping their address, but on the blockchain a nonce is increased every time they send a transaction to avoid replay attacks.

Answer: A

Question No : 7

Checking the balance of an address inside a loop of a smart contract constantly:

A. doesn't cost any gas.
B. cost gas every time we check the balance.

Answer: B

Question No : 8

It's easy to write clean-room unit-tests with truffle:

A. for Java, JavaScript, and C++
B. for JavaScript using Web3.js
C. for Solidity and JavaScript
D. for any language, as long as it adheres to the open Testing-Interface from Truffle

Answer: C

Question No : 9

To generate a random number:

A. it's good to use the block timestamp, as this is always different.
B. it's good to use the block hash as this is clearly always very different.
C. it's good to use the RANDAO smart contract.
D. it's not possible to have a random number in a deterministic environment such as the Ethereum blockchain.

Answer: C

Question No : 10

A Private Network is:

A. a side Channel to the Ethereum Main Net which costs less gas to run smart contracts.
B. an exact clone of the Rinkeby Test-Network which can be started as virtual machine in the Azure Cloud.
C. a Network running only in a private area, where people cannot join freely and openly.

Answer: C

Question No : 11

Finish the sentence: The Library Web3.js is …:

A. useful when developing distributed applications with HTML and JavaScript, because it already implements the abstraction of the JSON-RPC interface of Ethereum Nodes.
B. necessary when developing distributed applications with HTML and JavaScript, because the proprietary JSON-RPC interface of Ethereum Nodes is a closed source.

Answer: A

Question No : 12

What's the difference between Ethereum Request for Comments (ERC) and Ethereum Improvement Proposals (EIP)?

A. ERC are here to define standards for the usage of Ethereum. EIP are here to improve the Ethereum Protocol itself.
B. ERC are here to propose new distributed applications on top of the Ethereum layer, while EIP are here to improve existing mining software.
C. ERC are an open platform to discuss continuous forking of the Ethereum platform. Successful forks are then incorporated in the EIP for further voting by the Ethereum Consortium.

Answer: A

Question No : 13

The Fallback function:

A. cannot receive Ether, not even by adding the payable modifier.
B. can contain as much logic as you want, but it’s better to keep it short and not exceed the gas stipend of 2300 gas.
C. can be used to avoid receiving ether.

Answer: B

Question No : 14

Smart Contracts:

A. are always living on the same address, because the blockchain is deterministic. So, one account can always have one smart contract.
B. are having the same address as the EOA.
C. are sitting on their own address. The Address is created from the nonce and the EOA address and could be known in advance before deploying the smart contract.
D. the address of the smart contract is a random address which gets generated by the miner who mines the contract-creation transaction.

Answer: C

Question No : 15

A Hashing Algorithm is deterministic. What does it mean?

A. it always produces the same output given the same input.
B. it uses equally distributed data to produce the output given a long input.
C. it shouldn't be possible to re-generate the input given the output.

Answer: A

Question No : 16

Consensus is reached:

A. by the miner nodes which make sure that a transaction is valid.
B. by every single node in the blockchain network executing the same transaction.
C. by a cryptographic secure signature algorithm called ECDSA which makes sure that cheating is impossible.

Answer: B

Question No : 17

Block Timestamp:

A. the timestamp is based on the time zone of the miner, that is why it changes the difficulty continuously to reflect network latency.
B. the timestamp can't be influenced by a miner and is generally considered safe to be used for randomness on the blockchain.
C. the timestamp can be influenced by a miner to a certain degree but it's always independent from the time-zone.

Answer: C

Question No : 18

A version pragma is a great way to make it clear:

A. for which compiler version a smart contract was developed for. It helps to avoid breaking changes.
B. for which blockchain a smart contract was developed for. It helps to avoid confusion with beta-customers.
C. for which blockchain node a smart contract was developed for. It helps to avoid mixing up different versions of go-ethereum.

Answer: A

Question No : 19

What is the difference between ERC20 and ERC721 Tokens in simple terms?

A. The tokens of a certain ERC20 symbol are all the same, the tokens of an ERC721 symbol are all different. So, ERC20 tokens are fungible, while ERC721 tokens are non-fungible.
B. The tokens of a certain ERC20 symbol are all different, the tokens of an ERC721 symbol are all the same. So, ERC20 tokens are non-fungible while ERC721 tokens are fungible.

Answer: A

Question No : 20

Single line comments in Solidity are:

A. working with either // or ///
B. working with /* comment */ or /** @.. natspec style */
C. not possible, all comments must be multi-line.

Answer: A

Question No : 21

Truffle:

A. is a framework that helps developers with Testing, Deployment and Management of Smart Contracts and Distributed Applications.
B. is a library that helps developers to connect to Ethereum nodes, because it abstracts the JSONRPC interface.
C. is a framework for Java, similar to Web3.js for JavaScript. It's a great way to develop distributed Java enterprise applications.

Answer: A

Question No : 22

Why is it important to follow the same Interfaces?

A. Websites that try to interface with the Token would have to know the exact ABI. It is upfront clear how the interaction has to be with the standard Interfaces.
B. The Ethereum Foundation can easily validate the Tokens and approve any audits by following the standard interface.

Answer: A

Question No : 23

For Rapid Development Cycles it's good:

A. to deploy to the main-network as quickly as possible.
B. to use in-memory blockchain simulations, because mining works instantaneously.
C. to use a private network at all times, because this is the closest you get to the real network.

Answer: B

Question No : 24

The nonce-field in a transaction is used:

A. to protect against replay attacks.
B. to have an additional checksum for transactions.
C. to sum up all ethers sent from that address.

Answer: A

Question No : 25

Public Keys vs. Private Keys. Which statement is true?

A. The Public Key is for Signing Transactions, the Private Key must be given out to verify the signature.
B. The Private Key signs transactions, the Public Key can verify the signature.
C. The Private Key is to generate a Public Key. The Public Key can sign transactions, the address is here to verify the transactions.

Answer: B

Question No : 26

Files can be imported:

A. using relative and absolute paths, where the "." And the ".." depict that it's a relative path.
B. only via GitHub using the Repository and Username.
C. using the special requirefile(...) statement, which looks in a specific library path to import files.

Answer: A

Question No : 27

Truffle boxes are a great way:

A. to contribute to the box community which is the distributed file system for truffle.
B. to start with a pre-configured environment for most web-development needs.
C. to use tools that makes boxing of Dapps for different platforms very easy.

Answer: B

Question No : 28

Variables of the type address store: