

- 1) Which statements regarding distributed ledger technology are true?
  - a) **It refers also to decentralized account books or transaction databases. (100%)**
  - b) Only blockchains with encrypted user data are called distributed ledger chains. (0%)
  - c) **Distributed ledger technologies can be distinguished by the way an agreement is reached (consensus). (100%)**
  
- 2) What are the advantages of smart contracts?
  - a) **Efficiency (100%)**
  - b) Sophisticated technology (0%)
  - c) **Security (100%)**
  
- 3) Which consensus algorithms are currently known?
  - a) Proof of Peer (0%)
  - b) Proof of Time (0%)
  - c) **Proof of Work (100%)**
  
- 4) What is correct with regards to anonymisation and pseudonymisation?
  - a) It should be kept in mind in pseudonymisation that every person involved has exactly one pseudonym. (0%)
  - b) Personal data is changed in such a way in anonymisation that this data can only be restored by the person themselves. (0%)
  - c) **Anonymisation is changing of personal data in such a way that this data can no longer be allocated to a person. (100%)**
  
- 5) Which of the following are different classes of token (according to the German Federal Financial Supervisory Authority [BaFin])?
  - a) **Payment Token (100%)**
  - b) **Security Token (100%)**
  - c) **Utility Token (100%)**
  
- 6) Which of the following systems describe symmetric cryptosystems?
  - a) **DES - Data Encryption Standard (100%)**
  - b) **AES - Advanced Encryption Standard (100%)**
  - c) RSA (0%)
  
- 7) Which statements regarding the common bitcoin units are correct?
  - a) 10 bitcents equal 1 bitcoin. (0%)
  - b) **Bitcoins are each divided in to 100 million parts. (100%)**
  - c) 10,000,000 satoshi amount to one bitcoin. (0%)

- 8) Which of the following statements on Bitcoin are true?
- a) **The supply of fresh Bitcoin is foreseeable. (100%)**
  - b) **The price of bitcoin is determined by the supply and demand of the market. (100%)**
  - c) Bitcoin enabled secure online payments for the first time. (0%)
- 9) Which statements are true regarding hash functions?
- a) With a given hash value, one can always deduce the original information. (verification function). (0%)
  - b) The hash function is required in blockchains to reach a consensus in the network . (0%)
  - c) **Two identical strings should always result in the same hash value. (100%)**
- 10) Select only the true statements regarding the topic "cryptocurrency":
- a) **A cryptocurrency does not automatically have to be administered in a blockchain. (100%)**
  - b) A cryptocurrency is always inflationary. (0%)
  - c) **The value of such a currency is created solely by the supply and demand of a specific group of people who believe in this currency (100%)**
- 11) What is promised by omitting the central, trusted third party (intermediary)?
- a) **Transactions become quicker. (100%)**
  - b) **The transactions can not be deleted and are not faked by anyone. (100%)**
  - c) **Transactions become cheaper. (100%)**
- 12) What is correct regarding the definition of centralized and decentralized systems?
- a) **A distributed (decentralized) system is a collection of independent computers that are presented as a single system for the user. (100%)**
  - b) There is always a single point of failure in a decentralized system that can bring the system to a standstill. (0%)
  - c) In decentralized systems, every node must be able to communicate with every other node. (0%)
- 13) Which requirements are placed on a proof of work (POW)?
- a) **difficult to solve (100%)**
  - b) only solvable with pre-existing knowledge (0%)
  - c) difficult to check (0%)
- 14) What are the disadvantages of blockchain technology?
- a) Very little protection against loss of data. (0%)
  - b) **Less throughput and a reduced number of transactions (100%)**
  - c) **No easy integration into existing regulations (e.g. GDPR) (100%)**
- 15) Which of the following statements on asymmetric encryption are correct?
- a) **"Asymmetric cryptosystem" is a generic term for public-key encryption, public-key authentication and digital signatures. (100%)**
  - b) **In an asymmetric encryption process, specially matched key pairs are used. (100%)**
  - c) **RSA (Rivest, Shamir and Adleman) is an asymmetric cryptographic method that can be used for both encryption and digital signing. (100%)**

- 16) What possibilities are there to circumvent incompatibilities with the General Data Protection Regulation (GDPR)?
- a) Lightning protocol (0%)
  - b) SegWit (0%)
  - c) **Special provisions for blockchains to be published by the legislature within the framework of the GDPR (100%)**
- 17) Which of the following statements are true of Initial Coin Offering (ICO)?
- a) Bitcoin is used as a preferred platform for ICOs. (0%)
  - b) ICO tokens are often based on INFLUE tokens. (0%)
  - c) **ICO provides a way of collecting funds for crypto projects. (100%)**
- 18) Which statements are true with regards to smart contracts?
- a) Smart contracts can replace a blockchain. (0%)
  - b) **Smart contracts are comparable to conventional contracts. (100%)**
  - c) Smart contracts are contracts that are based on computer protocols and ablockchain, but can not be executed and checked by themselves. (0%)
- 19) What features does a wallet have?
- a) The pair of keys (public & private key) are converted into a public address (account number). (0%)
  - b) **Bitcoins can be managed by means of a wallet (100%)**
  - c) **The wallet generates for every address a pair of keys, comprising a private and a public key. (100%)**
- 20) Which statements apply to the bitcoin blockchain?
- a) A bitcoin can not be lost. (0%)
  - b) There is no upper limit for the total amount of bitcoins generated. (0%)
  - c) **The consensus mechanism is proof of work. (100%)**
- 21) Assess the statements regarding the topic "ownership and blockchain". Select only the true statements
- a) **A change of ownership that does not change the blockchain can brought about by transferring the private key. (100%)**
  - b) In a blockchain transaction, the ownership briefly goes to a neutral third party so that the authenticity can be confirmed. (0%)
  - c) **In a blockchain, the owner can prove their identity as they possess the matching private key to a pseudonym or their public key. (100%)**
- 22) Which of the following statements regarding digital currency are true?
- a) Ethereum transactions are based on anonymous identities. (0%)
  - b) **Bitcoin transactions are based on pseudonymous identities. (100%)**
  - c) Each participant of the bitcoin network can be identified via his own public key.
- (0%)

- 23) Which of the following statements regarding hash functions are true?
- a) **MD5 (Message Digest Algorithm 5) is an example of a hash function. (100%)**
  - b) A hash function is a character string agreed between two parties that is used for authentication. (0%)
  - c) **The cryptological hash function is a special form of the hash function which is collision resistant or a one-way function (or both). (100%)**
- 24) Which statements are true regarding the regulation of cryptocurrencies in Germany?
- a) In the absence of regulation, trading in cryptocurrencies (bitcoin) is a criminal offence according to the German Federal Financial Supervisory Authority [BaFin] as these are not financial instruments. (0%)
  - b) **The functions of each token are very important for the legal classification of a initial coin offering (ICO). (100%)**
  - c) Bitcoins are units of account as per § 1 para. 11 of the German Banking Act [KWG]. (0%)
- 25) To initiate a bitcoin transaction, the sender requires ...
- a) **... the public address of the recipient account. (100%)**
  - b) ... the private key of the recipient account. (0%)
  - c) **... the transaction amount. (100%)**
- 26) Which of the following statements are correct regarding the topic “proof of stake (POS)”?
- a) **The activity is called “forging”. (100%)**
  - b) **In POS, it is not possible to take over the network solely by possessing computing power. (100%)**
  - c) **POS is NOT currently used in bitcoin. (100%)**
- 27) What type of blockchain is it if every participant can create a new block?
- a) **public blockchain (100%)**
  - b) symmetrical blockchain (0%)
  - c) private blockchain (0%)
- 28) Which of the following statements are correct about the topic “proof of work (POW)”?
- a) **In POW, the participants aim to find a result with certain features by executing intensive computing operations. (100%)**
  - b) **POW helps to achieve a consensus. (100%)**
  - c) POW is only used in bitcoins (0%)
- 29) Which provisions of the General Data Protection Act (GDPR) are particular crucial with regards to a public blockchain?
- a) **The right of erasure. (100%)**
  - b) **Personal data must not leave the EU. (100%)**
  - c) It is necessary to ensure the integrity of personal data. (0%)

30) What is confidentiality?

- a) **One of the characteristics of information to be maintained in the context of information security (100%)**
- b) Property that information is well-known and communicated (0%)
- c) Property that an entity is what it claims to be (0%)