

NOC22-CS44: Blockchain and Its Applications

Assignment 12

Correct choices are highlighted in **Yellow**. Give partial marks for partially correct answers.

1. Blockchain has been used in many Electronic Health Record based use cases.
 - a. False
 - b. True**

Detailed Solution:It is one of the use cases of blockchain networks.

2. In public blockchain the identity of the participants are not always known.
 - a. True**
 - b. False

Detailed Solution:Public blockchain is open. Anyone can join the network. So the option a is true

3. Which of the following is/are advantages of blockchain?
 - a. Provides a decentralized platforms and marketplace**
 - b. Can avoid intermediaries**
 - c. Reduced cost of transactions**
 - d. Better transparency**

Detailed Solution:All of the above is correct. Please refer to slides for further details.

4. Which of the following is/are true for federated voting ?
 - a. Nodes participate in voting process**
 - b. Keep on voting any valid statement**
 - c. Accept when a majority votes**
 - d. Confirm when the quorum unanimously accepts a statement**

Detailed Solution: For federated voting all of the options are correct. Please refer to slides for further details.

5. Ubin project is based on Blockchain and Distributed Ledger Technology (DLT) for clearing and settlement of payments and securities
 - a. True**
 - b. False

Detailed Solution: Ubin project uses Blockchain DLT for payment clearing and settlement. So option A is true.

6. In which of the attacks, end-user consumers can create multiple accounts/identities for accessing the consortium services?

- a. Byzantine faults
- b. Sybil attacks**
- c. Impersonation attacks
- d. Sensitive information Leakage

Refer to Week 12 slide for Threat Model

7. To allocate consumer requests among Service Providers, which of the following scheduling algorithms is implemented?
- a. Fair Scheduling Algorithm**
 - b. Capacity Scheduling Algorithm
 - c. Dynamic Round Robin
 - d. A* Algorithm

In Cloud Federation to allocate consumer requests among Service Providers, Fair scheduling algorithm is implemented. Each SP will be allocated the number of consumer requests proportional to its infrastructure contribution in the federation.

8. Quorum supports transactions with
- a. Only private state
 - b. Only public state
 - c. Both private and public state at the same time
 - d. Either private or public state for a transaction**

In Quorum a transaction has to be either public or private. If the transaction is private all the data within that transaction is private for that set of entities in the blockchain. Public transactions are transactions where the payload is visible to all participants.

9. Which of the following is true about the selection of the random committee in the Algorand network?
- a. There is a dedicated node which chooses the nodes to form the committee
 - b. A distributed algorithm decides the list of nodes participating in the committee
 - c. The nodes elect themselves as a committee member by winning a local computation**
 - d. A specific pool of node choose are given the responsibility of forming the committee

The nodes elect themselves as a committee member by winning a local computation which makes the protocol to have good performance while allowing anyone in the network to participate.

10. What are the advantages of Hyperledger?
- a. Open source**
 - b. Identities of parties must be known
 - c. Private channels**
 - d. None of the above

In Hyperledger, identities of parties are not required to be known apriori.