Unit 3 - Week 01: P2P Networks – Motivation. Basics – Cryptographic Hash,Public Key Cryptography Principles, Security Certificates, Structured and Unstructured P2P Networks, Inconsistent Hashing, Consistent Hashing, Rendezvous Hashing, Locality Preserving Hashing, Distributed Hash Tables

Assignment_1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-09-30, 23:59 IST.

1) Distributed Hash Tables (DHTs) are scalable because: *1 point*
i. Node ID is space huge.
ii. Logarithmic partitioning is used for routing.
iii. The system repairs itself on joining and leaving of nodes distributively.
Which of the above statement/s is/are true? Choose the correct code.

- i
- i, ii
- ii, iii
- i, ii, iii

No, the answer is incorrect.
Score: 0
Accepted Answers:
i, ii, iii

2) Which type of indexing is used by SIP telephony? *1 point*

- Centralized Indexing
- Distributed Indexing
- Decentralized Indexing
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Centralized Indexing

3) What all can be done using a Distributed Hash Table (DHT) infrastructure? *1 point*
i. Efficiently finding which node is responsible for a key, value pair.
ii. Finding the endpoint address of a node if node ID is known.
iii. Setting up of a conference call.
Which of the above statement/s is/are true? Choose the correct code.

- i
- i, ii
- ii, iii
- i, ii, iii

No, the answer is incorrect.
Score: 0
Accepted Answers:
i, ii, iii

4) Which of the following statement/s is/are true about a Chord system? *1 point*
i. A peer randomly picks a node ID from a very large node ID space and verifies from DHT network if any duplicate exists.
ii. When a node joins or leaves, the system need not ensure that the ring structure is intact.
iii. Nodes that participate to form a distributed ring where each node points to its successor and predecessor.
iv. It is not guaranteed that a lookup will be directed only to nodes that are still part of the system.
Which of the above statement/s is/are true? Choose the correct code.

- i, ii
- i, iii
- ii, iii
- iii, iv

No, the answer is incorrect.
Score: 0
Accepted Answers:
i, iii

5) If the voice calls need to be tapped for surveillance, who taps the call in SIP telephony? *1 point*

- Media Gateway
- SIP Registrar
- The person who initiates the call
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Media Gateway

6) Which of the following statements/s is/are NOT true for Dynamic DNS? *1 point*

- Domain name is independent of location of the device
- Domain name changes with the location of the device
- IP address changes with the location of the device
- IP address is fixed with the location of the device

No, the answer is incorrect.
Score: 0
Accepted Answers:
Domain name changes with the location of the device
IP address is fixed with the location of the device

7) Consider the following statements about DHT and DNS? *1 point*
i. The domain name system allows clients to query any DNS server for the IP address associated with a given hostname. DHTs can be used to provide such a service.
ii. The property that distinguishes a DHT from DNS is that the organization of its data is self-managing.
iii. DHTs dynamically decide which node is responsible for which items.
iv. DNS dynamically forms a tree hierarchy, which is divided into zones.
Which of the above statement/s is/are true? Select the correct code given below.

- i
- i, ii
- i, ii, iii
- i, ii, iv

No, the answer is incorrect.
Score: 0
Accepted Answers:
i, ii, iii

8) Consider the following statements about digital signature? *1 point*
i. A digital signature scheme consists of a signature generation algorithm using content and private key and an associated verification algorithm using content and public key.
ii. Digital signatures are used for the certifying the integrity of security certification containing public keys.
iii. Digital signature can be used only for authentication but it cannot be used for data integrity.
iv. RSA signature relies to a large degree on the tractability of the integer factorization problem.
Which of the following options are NOT true for Digital Signature? Select the correct code.

- i,ii
- ii, iii
- ii,iv
- iii, iv

No, the answer is incorrect.
Score: 0
Accepted Answers:
iii, iv

9) Consider the following statements about secure DHT systems. *1 point*
i. Sybil attack is not possible in the DHT systems.
ii. Establishing node identities using certificates is sufficient to ensure security.
iii. It is impossible to stop nodes from behaving maliciously, especially in a large-scale overlay that is open to any user and does not employ node identities.
iv. Trust management schemes aim to use an indicator of peers' behaviour which tells how peers will behave in the future. This indicator is designed by collecting, processing, and disseminating feedback about the past behaviour of participating nodes.
Which of the above statement/s is/are true? Select the correct codes given below.

- i
- ii
- ii, iii
- iii, iv

No, the answer is incorrect.
Score: 0
Accepted Answers:
iii, iv

10) The following look strategies are applicable to every DHT. *1 point*
i. Recursive lookup
ii. Iterative lookup
iii. Transitive lookup
Which of the above option is correct? Choose the correct code given below.

- i, ii
- ii
- ii, iii
- i, ii, iii

No, the answer is incorrect.
Score: 0
Accepted Answers:
i, ii, iii