Assignment 2

The due date for submitting this assignment is Nov 30, 20:00 IST. If you have not submitted this assignment by the due date, you will not be able to submit it.

1. Which of the following statements is/are TRUE for peer-to-peer networks? 
   - It uses domain name servers for its authentication. 
   - It causes logical partitioning for finding the root node of a newly joined peer. 
   - It uses rendezvous hashing for DHT routing protocols. 
   - Discussion forums are one of the most commonly used Peer-to-Peer networks.
   - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 3 points
   - 4 points
   - 5 points

2. Consider the following statements:
   - A multi-dimensional indexing falls into two basic categories, but if reducing the dimensionality, the second is partitioning the multi-dimensional space.
   - Index partitioning is commonly sub-dividing space to avoid regions that contain a statistics unknown number of hosts.
   - More indexing structures are known as space partitioning indexes, and it also allows for dynamic insertion and removal.
   - A malicious node in an indexing structure cannot misdirect queries but can manipulate them, give false answers.
   - If any of the above statements is NOT correct, select the correct code.
     - 1
     - 2
     - 3
     - 4
     - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points

3. Which of the following statements is/are TRUE for VoIP?
   - A node wants to connect another node using the publish-domain message.
   - A node joins the DHT network using its node ID.
   - The cache-node can be searched using finding nodeID of cache from the root of hash/TTL (number or email)
   - VoIP and SIP use the same type of indexing.
   - The cache-node can be searched using finding nodeID of cache from the root of hash/TTL (number or email)
   - All of the above
   - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

4. Which of the following statements is/are TRUE for P2P networking?
   - Public/private keys generated together and public key with signed hash is used as nodeID.
   - Node ID generation is a random process, and it creates a non-uniformity in the DHT network.
   - Digital signatures can be used for authentication of a node.
   - Multiple root nodes can be allocated to a node.
   - All of the above
   - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

5. Which of the following statements is/are TRUE for DHT implementation in B4 system?
   - The email address of a node can be used as a node ID.
   - Node ID is the private key of that node.
   - The probability of getting the node ID that is already in the network for a newly joined node is low.
   - The same messages type as used in VoIP are used in B4.
   - All of the above
   - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

6. For the large group conference call setup, which of the following will be preferably needed for good voice quality?
   - The user can use speech to reduce unnecessary sound.
   - A mixer can be used to avoid noise.
   - A threshold on the number of participants.
   - All of the above
   - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points

7. Which of the following nodes maintain routing entries in the DHT?
   - Lead node.
   - Core node.
   - Birth lead node and Core node.
   - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points

8. What is the role of the core nodes?
   - Periodically merge the received routing tables and their source nodes into the existing routing tables.
   - Participate in the DHT network for routing.
   - Periodically send updates to the nodes listed in routing tables and nodes from which routing tables or heartbeat packets are received.
   - All of the above
   - None of the above
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points

9. What type of messages can be used for sandboxed virtual machine based on destination identification?
   - Root(Node ID)
   - Root(Length Node ID)
   - Root(name(Node ID))
   - Root(name(Length Node ID))
   - Root(name(key))
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points

10. Consider the following statements about DNS networks:
    - 1. Nodes and objects are assigned IDs from common space via a distributed hashing.
    - 2. The DHT network assigns keys to data items and organizes its peers into a hash that maps each data key to a peer. There are structures that enable the efficient discovery of data items using the given keys.
    - 3. Nodes are allocated to an existing object using a hash key, and its nodes are stored in a binary tree, which is hashed on the Internet, which over time uses to provide its own routing functionality. The existing network is then referred to as the overlay network.
    - Which of the following statements is/are NOT correct? Select the correct code.
        - 1
        - 2
        - 3
        - None of the above
        - 1 point
        - 2 points
        - 3 points
        - 4 points
        - 5 points

   Accepted Answers:
   - 1 point
   - 2 points
   - 3 points
   - 4 points
   - 5 points