1. In a granularity hierarchy the highest level represents the  
a) Entire database  
b) Area  
c) File  
d) Record

Answer: a  
Explanation: This level is the root of the tree.

2. In a database the file is contained in \_\_\_\_\_\_\_\_  
a) Entire database  
b) Two area  
c) One area  
d) more than one area

Answer: c  
Explanation: This level is below the root of the tree.

3. If a node is locked in an intention mode, explicit locking is done at a lower level of the tree. This is called  
a) Intention lock modes  
b) Explicit lock  
c) Implicit lock  
d) Exclusive lock

Answer: a  
Explanation: There is an intention mode associated with shared mode, and there is one with an exclusive mode.

4. If a node is locked in \_\_\_\_\_\_\_\_\_\_ explicit locking is being done at a lower level of the tree, but with only shared-mode locks.  
a) Intention lock modes  
b) Intention-shared-exclusive mode  
c) Intention-exclusive (IX) mode  
d) Intention-shared (IS) mode

Answer: a  
Explanation: There is an intention mode associated with shared mode, and there is one with an exclusive mode.

5. If a node is locked in \_\_\_\_\_\_\_\_\_\_\_\_ then explicit locking is being done at a lower level, with exclusive-mode or shared-mode locks.  
a) Intention lock modes  
b) Intention-shared-exclusive mode  
c) Intention-exclusive (IX) mode  
d) Intention-shared (IS) mode

Answer: c  
Explanation: There is an intention mode associated with shared mode, and there is one with an exclusive mode.

6. If a node is locked in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the subtree rooted by that node is locked explicitly in shared mode, and that explicit locking is being done at a lower level with exclusive-mode locks.  
a) Intention lock modes  
b) shared and intention-exclusive (SIX) mode  
c) Intention-exclusive (IX) mode  
d) Intention-shared (IS) mode

Answer: b  
Explanation: There is an intention mode associated with shared mode, and there is one with an exclusive mode.

7. \_\_\_\_\_\_\_\_\_\_\_\_ denotes the largest timestamp of any transaction that executed write(Q) successfully.  
a) W-timestamp(Q)  
b) R-timestamp(Q)  
c) RW-timestamp(Q)  
d) WR-timestamp(Q)

Answer: a  
Explanation: The most common method for doing ordering transaction is to use a timestamp-ordering scheme.

8. The \_\_\_\_\_\_\_\_\_\_\_\_\_ ensures that any conflicting read and write operations are executed in timestamp order.  
a) Timestamp-ordering protocol  
b) Timestamp protocol  
c) W-timestamp  
d) R-timestamp

Answer: a  
Explanation: The most common method for doing ordering transaction is to use a timestamp-ordering scheme.

9. The \_\_\_\_\_\_\_\_\_\_ requires that each transaction Ti executes in two or three different phases in its lifetime, depending on whether it is a read-only or an update transaction.  
a) Validation protocol  
b) Validation-based protocol  
c) Timestamp protocol  
d) Timestamp-ordering protocol

Answer: a  
Explanation: A concurrency-control scheme imposes the overhead of code execution and possible delay of transactions. It may be better to use an alternative scheme that imposes less overhead.

10. This validation scheme is called the \_\_\_\_\_\_\_\_\_ scheme since transactions execute optimistically, assuming they will be able to finish execution and validate at the end.  
a) Validation protocol  
b) Validation-based protocol  
c) Timestamp protocol  
d) Optimistic concurrency-control

Answer: a  
Explanation: A concurrency-control scheme imposes the overhead of code execution and possible delay of transactions. It may be better to use an alternative scheme that imposes less overhead.