1. The log is a sequence of \_\_\_\_\_\_\_\_\_ recording all the update activities in the database.  
a) Log records  
b) Records  
c) Entries  
d) Redo

Answer: a  
Explanation: The most widely used structure for recording database modifications is the log.

2. In the \_\_\_\_\_\_\_\_\_\_\_ scheme, a transaction that wants to update the database first creates a complete copy of the database.  
a) Shadow copy  
b) Shadow Paging  
c) Update log records  
d) All of the mentioned

Answer: a  
Explanation: If at any point the transaction has to be aborted, the system merely deletes the new copy. The old copy of the database has not been affected.

3. The \_\_\_\_\_\_\_\_\_\_\_\_ scheme uses a page table containing pointers to all pages; the page table itself and all updated pages are copied to a new location.  
a) Shadow copy  
b) Shadow Paging  
c) Update log records  
d) All of the mentioned

Answer: b  
Explanation: Any page which is not updated by a transaction is not copied, but instead the new page table just stores a pointer to the original page.

4. The current copy of the database is identified by a pointer, called \_\_\_\_\_\_\_\_\_\_\_\_ which is stored on disk.  
a) Db-pointer  
b) Update log  
c) Update log records  
d) All of the mentioned

Answer: a  
Explanation: Any page which is not updated by a transaction is not copied, but instead the new page table just stores a pointer to the original page.

5. If a transaction does not modify the database until it has committed, it is said to use the \_\_\_\_\_\_\_\_\_\_\_ technique.  
a) Deferred-modification  
b) Late-modification  
c) Immediate-modification  
d) Undo

Answer: a  
Explanation: Deferred modification has the overhead that transactions need to make local copies of all updated data items; further, if a transaction reads a data item that it has updated, it must read the value from its local copy.

6. If database modifications occur while the transaction is still active, the transaction is said to use the \_\_\_\_\_\_\_\_\_\_\_technique.  
a) Deferred-modification  
b) Late-modification  
c) Immediate-modification  
d) Undo

Answer: c  
Explanation: We say a transaction modifies the database if it performs an update on a disk buffer, or on the disk itself; updates to the private part of main memory do not count as database modifications.

7. \_\_\_\_\_\_\_\_\_\_\_\_ using a log record sets the data item specified in the log record to the old value.  
a) Deferred-modification  
b) Late-modification  
c) Immediate-modification  
d) Undo

Answer: d  
Explanation: Undo brings the previous contents.

8. In the \_\_\_\_\_\_\_\_\_\_ phase, the system replays updates of all transactions by scanning the log forward from the last checkpoint.  
a) Repeating  
b) Redo  
c) Replay  
d) Undo

Answer: b  
Explanation: Undo brings the previous contents.

9. The actions which are played in the order while recording it is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_ history.  
a) Repeating  
b) Redo  
c) Replay  
d) Undo

Answer: a  
Explanation: Undo brings the previous contents.

10. A special redo-only log record < Ti, Xj, V1> is written to the log, where V1 is the value being restored to data item Xj during the rollback. These log records are sometimes called  
a) Log records  
b) Records  
c) Compensation log records  
d) Compensation redo records

Answer: c  
Explanation: Such records do not need undo information since we never need to undo such an undo operation.