

1. _____ is an OS that reads and reacts in terms of actual time.
 - a) Time Sharing System.
 - b) **Real Time System.**
 - c) Batch System
 - d) Quick Response System.
2. A Process that has completed its execution but still has an entry in the process table is called a _____.
 - a) **Zombie Process.**
 - b) Batch Process.
 - c) Init Process.
 - d) Task Process.
3. The contents of a file will be lost if opened using the
 - a) a mode.
 - b) a+ mode.
 - c) **w+ mode**
 - d) r mode.
4. Processes running in the background are typically called
 - a) **Daemons.**
 - b) Tasks
 - c) Threads.
 - d) None of the Above.
5. The purpose of the dispatcher function in the process of task scheduling is to
 - a) **place tasks in I/O wait.**
 - b) Schedule Tasks for the Processor.
 - c) Change Task Priorities.
 - d) All the above.
6. The System Call that returns the Process ID of the Current Process is
 - a) **getpid**
 - b) getppid
 - c) wait
 - d) showpid

7. Each division of a large physical memory is called as a
- a) Page
 - b) Block
 - c) **Frame**
 - d) All the above.
8. Virtual memory can be put to effective use via
- a) Thrashing.
 - b) Synchronisation.
 - c) **Demand Paging.**
 - d) None of the Above.
9. _____ is a process in which the free space is collected in a large memory chunk to make some space available for processes.
- a) External Fragmentation.
 - b) Internal Fragmentation.
 - c) **Compaction.**
 - d) Thrashing.
10. The unusable portion memory found within an allocated memory block leads to a phenomenon called.
- a) **Internal Fragmentation.**
 - b) External Fragmentation.
 - c) Thrashing
 - d) Paging

DBMS:-

1. Which makes the changes effected by a transaction permanent in the database?
- a) View.
 - b) **Commit**
 - c) Rollback.
 - d) Save.

2. The _____ operation, denoted by $-$, allows us to find tuples that are in one relation but are not in another.

- a) Complement.
- b) **Set - Difference**
- c) Difference
- d) Union

3. What is the best definition of a collision in a hash table?

- a) **Two entries are identical except for their keys**
- b) Two entries with different data have the exact same key
- c) Two entries with different keys have the same exact hash value
- d) Two entries with the exact same key have different hash values

4. Relation R with an associated set of functional dependencies, F, is decomposed into BCNF. The redundancy (arising out of functional dependencies) in the resulting set of relations is

- a) Zero
- b) Intermediate
- c) Proportional to the size of F^+ .
- d) **> 0 but $<$ equivalent 3NF decomposition.**

5. A table has fields F1, F2, F3, F4, and F5, with the following functional dependencies.

F1 \rightarrow F3

F2 \rightarrow F4

(F1, F2) \rightarrow F5

In terms of normalization, this table is in

- a) **1NF**
- b) 2NF
- c) 3NF
- d) BCNF

6. What is/are the desirable goal(s) of decomposition?

- a) Lossless Join
- b) Dependency Preservation.
- c) Redundancy
- d) **Both (a) and (b)**

7. Consider Date_Of_Birth to be used for calculating the value of the attribute AGE. Then AGE is a _____ attribute.

- a) Single
- b) Multivalued
- c) Composite
- d) **Derived.**

8. A system is in a _____ state if there exists a set of transactions such that every transaction in the set is waiting for another transaction in the set.

- a) Idle.
- b) Terminated.
- c) Waiting
- d) **Deadlock**

9. Which rollback Strategy requires the system to maintain additional information about the state of all the running transactions?

- a) Total
- b) **Partial**
- c) Recursive
- d) Both (a) and (c).

10. The Sample SQL statement

```
"SELECT * from Customer where Customer_Name LIKE "_b%"
```

Retrieves all rows where the Customer_Name

- a) starts with 'b'.
- b) Ends with 'b'.
- c) **Has 'b' in the second position.**
- d) has 'b' in the first and second position.