

# **PPSC Competitive Exam for the Post of Database Administrator**

## **Question Paper Along with Answer Key**

**Date: 21<sup>st</sup> June, 2014**

**Time: 03: 00 PM to 05:00 PM**

**Total Number of Questions: 100**

**Q 1.**

**Which of the following ensure that changes made to the database by authorized users do not result in a loss of data consistency?**

Options:

- A) Locking
- B) Primary Key
- C) Integrity constraints
- D) Tuning

Correct Option: Option "C"

**Q 2.**

**A user account is identified by a user name and defines the attributes of the user, including**

Options:

- A) Authentication method
- B) Password for database authentication
- C) Default table spaces for permanent and temporary data storage
- D) All of the options

Correct Option: Option "D"

**Q 3.**

**If the user will be creating database objects, then give the \_\_\_\_\_ on each tablespace in which the objects will be created.**

Options:

- A) Constraints
- B) user account a space usage quota
- C) Security
- D) Reference

Correct Option: Option "B"

**Q 4.**

**When you create a user account, you are also implicitly creating a \_\_\_\_\_ for that user.**

Options:

- A) Roll
- B) Schema
- C) Database
- D) Privileges

Correct Option: Option "B"

**Q 5.**

**A schema is a logical container for the database objects such as**

Options:

- A) Table
- B) View
- C) Triggers
- D) All of the options

Correct Option: Option "D"

**Q 6.**

**When you delete a user, you must either simultaneously delete all \_\_\_\_\_ objects of that user**

Options:

- A) Rolls
- B) Schema
- C) Tables
- D) Constraints

Correct Option: Option "B"

**Q 7.**

**In addition to the user accounts that you create, the database includes several user accounts that are automatically created upon**

Options:

- A) Installation
- B) Configuration
- C) Modification
- D) Updation

Correct Option: Option "A"

**Q 8.**

**\_\_\_\_\_ are highly privileged accounts, and are needed only by individuals authorized to perform administrative tasks such as starting and stopping the database, managing database memory and storage, creating and managing database users, and so on.**

Options:

- A) Normal Account
- B) Administrative accounts
- C) User account
- D) Locked Account

Correct Option: Option "B"

**Q 9.**

**Each sample schema has \_\_\_\_\_ associated with it.**

Options:

- A) a user account
- B) Tables
- C) SQL
- D) Procedures

Correct Option: Option "A"

**Q 10.**

**A \_\_\_\_\_ gives a user the ability to perform a particular action, or to perform an action on any schema objects of a particular type.**

Options:

- A) Object Privilage
- B) system privilege
- C) Table Privilege
- D) Schema Privilege

Correct Option: Option "B"

**Q 11.**

**the system privilege CREATE TABLE permits a user to create tables in the \_\_\_\_\_ associated with that user**

Options:

- A) Space
- B) Database
- C) Rolls
- D) Schema

Correct Option: Option "D"

**Q 12.**

**Which are statements that are executed automatically by the system as a side effect of a modification to the database?**

Options:

- A) Triggers
- B) Queries
- C) Procedure
- D) Commands

Correct Option: Option "A"

**Q 13.**

**Managing privileges is made easier by using \_\_\_\_\_, which are named groups of related privileges.**

Options:

- A) System
- B) Roles
- C) SQL
- D) Commands

Correct Option: Option "B"

**Q 14.**

**Unlike \_\_\_\_\_, roles are not contained in any schema.**

Options:

- A) Database
- B) Table
- C) schema objects
- D) Procedure

Correct Option: Option "C"

**Q 15.**

**Which of the following Enables a user to create, modify, and delete certain types of schema objects in the schema associated with that user?**

Options:

- A) SYS
- B) CONNECT
- C) DBA
- D) RESOURCES

Correct Option: Option "D"

**Q 16.**

**DBA Enables a user to perform most administrative functions, including**

Options:

- A) creating users and granting privileges;
- B) creating and granting roles;
- C) creating, modifying, and deleting schema objects in any schema
- D) All of the options

Correct Option: Option "D"

**Q 17.**

**The ----- system privilege allows a user to perform basic operational tasks, but without the ability to look at user data.**

Options:

- A) SYSDBA
- B) SYSOPER
- C) SYSUSER
- D) None of the options

Correct Option: Option "B"

**Q 18.**

**The \_\_\_\_\_ user is automatically granted the SYSDBA privilege upon installation.**

Options:

- A) SYS
- B) DBA
- C) OPER
- D) Normal

Correct Option: Option "A"

**Q 19.**

**Which of the following is not a valid system privilege?**

Options:

- A) CREATE TABLE
- B) CREATE VIEW
- C) CREATE CONSTRAINTS
- D) CREATE SEQUENCE

Correct Option: Option "C"

**Q 20.**

**The relation schema for a weak entity set must include the \_\_\_\_\_ of the entity set on which the weak entity set depends.**

Options:

- A) primary key
- B) Foreign Key
- C) Unique Key
- D) Not Null

Correct Option: Option "A"

**Q 21.**

**Database modifications can cause violations of**

Options:

- A) Primary Key Violation
- B) referential integrity
- C) Security Violation
- D) Null Violation

Correct Option: Option "B"

**Q 22.**

**If a tuple t2 is inserted into r2, the system must ensure that there is a tuple t1 in r1 such that**

Options:

- A)  $\sigma_{\alpha = t1[K]}(r2)$
- B)  $t2'[\alpha] \in \Pi K(r1)$
- C)  $t1[K] = t2[\alpha]$
- D)  $\sigma_{\alpha = t1[K]}(r2)$

Correct Option: Option "C"

**Q 23.**

**Which statements concerning the creation of a view are true?**

Options:

- A) A constraint name must be provided when using the WITH CHECK OPTION clause
- B) View columns that are the result of derived values must be given a column alias
- C) When the view already exists, using the OR REPLACE option require the re-granting of the object privileges previously granted on the view
- D) All of the options

Correct Option: Option "B"

**Q 24.**

**If a tuple t1 is updated in r1, and the update modifies values for the primary key (K), then a test similar to the delete case is made. The system must compute**

Options:

- A)  $\sigma_{\alpha = t1[K]}(r2)$
- B)  $t2'[\alpha] \in \Pi K(r1)$
- C)  $t1[K] = t2[\alpha]$
- D)  $\sigma_{\alpha = t1[K]}(r2)$

Correct Option: Option "D"

**Q 25.**

**If a tuple t1 is deleted from r1, the system must compute the set of tuples in r2 that reference t1:**

Options:

- A)  $\sigma_{\alpha = t1[K]}(r2)$
- B)  $t2'[\alpha] \in \Pi K(r1)$
- C)  $t1[K] = t2[\alpha]$
- D)  $\sigma_{\alpha = t1[K]}(r2)$

Correct Option: Option "A"

**Q 26.**

**Although a user may be denied direct access to a relation, that user may be allowed to access part of that relation through a \_\_\_\_\_.**

Options:

- A) Table
- B) View
- C) Trigger
- D) Database

Correct Option: Option "B"

**Q 27.**

**The root of authorization graph is**

Options:

- A) the database administrator
- B) The user
- C) Database
- D) None of the options

Correct Option: Option "A"

**Q 28.**

**Which of the following refers to protection from malicious access?**

Options:

- A) Database Access
- B) Database Integrity
- C) Database security
- D) Database updation

Correct Option: Option "C"

**Q 29.**

**Authorizations can be granted to \_\_\_\_\_, in exactly the same fashion as they are granted to individual users.**

Options:

- A) Database
- B) Tables
- C) View
- D) Roles

Correct Option: Option "D"

**Q 30.**

**Which of the following is a log of all changes (inserts/deletes/updates) to the database, along with information such as which user performed the change and when the change was performed.**

Options:

- A) An audit trail
- B) A back up
- C) A commit
- D) A roll back

Correct Option: Option "A"

**Q 31.**

**Triggers are used to ensure some types of \_\_\_\_\_.**

Options:

- A) Security
- B) Integrity
- C) Roll management
- D) Performance Tuning

Correct Option: Option "B"

**Q 32.**

**The select privilege corresponds to the**

Options:

- A) Write privilege
- B) readprivilege.
- C) Update Privilege
- D) Delete Privilege

Correct Option: Option "B"

**Q 33.**

**The SQL \_\_\_\_\_ includes commands to grant and revoke privileges.**

Options:

- A) Data Control Language
- B) Data manipulation Language
- C) Data Definition Language
- D) Procedures

Correct Option: Option "C"

**Q 34.**

**Which of the following allows the creation of new relations?**

Options:

- A) Resource authorization
- B) Index authorization
- C) Alteration authorization
- D) Drop authorization

Correct Option: Option "A"

**Q 35.**

**Domain constraints are the most elementary form of \_\_\_\_\_.**

Options:

- A) Integrity Constraints
- B) Referential Constraint
- C) CHECK constraint
- D) Unique Constraint

Correct Option: Option "A"



**Q 36.**

An \_\_\_\_\_ is a predicate expressing a condition that we wish the database always to satisfy.

Options:

- A) Assertion
- B) SQL
- C) Schema
- D) Object

Correct Option: Option "A"

**Q 37.**

To allow the database administrator to regulate the use of system resources, it is necessary to treat \_\_\_\_\_ creation as a privilege.

Options:

- A) User
- B) Roll
- C) Database
- D) Index

Correct Option: Option "D"

**Q 38.**

Which of the following can hide data that a user does not need to see?

Options:

- A) View
- B) Table
- C) Database
- D) Procedure

Correct Option: Option "A"

**Q 39.**

Attributes of \_\_\_\_\_ are allowed to be null, provided that they have not otherwise been declared to be non-null.

Options:

- A) foreign keys
- B) Primary Key
- C) Unique Key
- D) Null constraint

Correct Option: Option "A"

**Q 40.**

\_\_\_\_\_ are a structure for performance enhancements. However, \_\_\_\_\_ also consume space, and all database modifications are required to update \_\_\_\_\_.

Options:

- A) Constraints
- B) Indices
- C) Tables
- D) References

Correct Option: Option "B"

**Q 41.**

\_\_\_\_\_ values complicate the semantics of referential integrity constraints in SQL.

Options:

- A) Null
- B) Alphabetic
- C) Numeric
- D) Alphanumeric

Correct Option: Option "A"

**Q 42.**

**A user with \_\_\_\_\_ who creates a new relation is given all privileges on that relation automatically.**

Options:

- A) Resource authorization
- B) Index authorization
- C) Alteration authorization
- D) Drop authorization

Correct Option: Option "A"

**Q 43.**

**By default, \_\_\_\_\_ references the primary key attributes of the referenced table.**

Options:

- A) a foreign key
- B) a unique key
- C) A primary key
- D) None of the options

Correct Option: Option "A"

**Q 44.**

**The database stores \_\_\_\_\_ just as if they were regular data, so that they are persistent and are accessible to all database operations.**

Options:

- A) Triggers
- B) Procedures
- C) SQL
- D) Tables

Correct Option: Option "A"

**Q 45.**

**Foreign keys can be specified as part of the SQL \_\_\_\_\_ statement by using the foreign key clause.**

Options:

- A) Create Schema
- B) Create User
- C) Create Database
- D) Create Table

Correct Option: Option "D"

**Q 46.**

**If a user deletes all \_\_\_\_\_ of a relation, the relation still exists, but it is empty.**

Options:

- A) Tuples
- B) Rows
- C) Constraints
- D) Schema

Correct Option: Option "A"

**Q 47.**

**Which of the following refers to all current and future users of the system?**

Options:

- A) SYS
- B) DBA
- C) User
- D) Public

Correct Option: Option "D"

**Q 48.**

**Which of the following of an object (relation/view/role) gets all privileges on the object, including the privilege to grant privileges to others?**

Options:

- A) Creator
- B) SYSDBA
- C) SYSOPER
- D) Creator and SYSDBA

Correct Option: Option "D"

**Q 49.**

**Ensuring atomicity is the responsibility of the database system itself; specifically, it is handled by a component called the**

Options:

- A) Recovery Management Component.
- B) Transaction Management Component
- C) Concurrency Control Component
- D) User Management

Correct Option: Option "B"

**Q 50.**

**Either all operations of the transaction are reflected properly in the database, or none are**

Options:

- A) Atomicity
- B) Consistency
- C) Isolation
- D) Durability

Correct Option: Option "A"

**Q 51.**

**Execution of a transaction in isolation (that is, with no other transaction executing concurrently) preserves the consistency of the database.**

Options:

- A) Atomicity
- B) Consistency
- C) Isolation
- D) Durability

Correct Option: Option "B"

**Q 52.**

**each transaction is unaware of other transactions executing concurrently in the system is called**

Options:

- A) Atomicity
- B) Consistency
- C) Isolation
- D) Durability

Correct Option: Option "C"

**Q 53.**

**After a transaction completes successfully, the changes it has made to the database persist, even if there are system failures is called**

Options:

- A) Atomicity
- B) Consistency
- C) Isolation
- D) Durability

Correct Option: Option "D"

**Q 54.**

**Ensuring durability is the responsibility of a component of the database system called**

Options:

- A) Recovery Management Component.
- B) Transaction Management Component
- C) Concurrency Control Component
- D) User Management

Correct Option: Option "B"

**Q 55.**

**Ensuring the isolation property is the responsibility of a component of the database system called**

Options:

- A) Recovery Management Component.
- B) Transaction Management Component
- C) Concurrency Control Component
- D) User Management Component

Correct Option: Option "C"

**Q 56.**

**Which of the following technique for atomicity and durability is extremely inefficient in the context of large databases, since executing a single transaction requires copying the entire database?**

Options:

- A) Shadow Copy
- B) Replicate
- C) Mirror Image
- D) None of the options

Correct Option: Option "A"

**Q 57.**

**Concurrency control is important for which of the following reasons?**

Options:

- A) To ensure data integrity when updates occur to the database in a multiuser environment
- B) To ensure data integrity when updates occur to the database in a single-user environment
- C) To ensure data integrity while reading data occurs to the database in a multiuser environment
- D) To ensure data integrity while reading data occurs to the database in a single-user environment

Correct Option: Option "A"

**Q 58.**

**A single transaction failure leads to a series of transaction rollbacks, is called**

Options:

- A) Transaction recovery
- B) Forward Rollback
- C) Cascading rollback
- D) Error recovery

Correct Option: Option "C"

**Q 59.**

**Which of following is undesirable, since it leads to the undoing of a significant amount of work?**

Options:

- A) Cascading rollback
- B) cascade less schedule
- C) Cascading commit
- D) Cascading backup

Correct Option: Option "A"

**Q 60.**

**Which of the following is recoverable?**

Options:

- A) Cascading rollback
- B) cascade less schedule
- C) Cascading commit
- D) Cascading backup

Correct Option: Option "B"

**Q 61.**

**Which of the following is use to ensure that, even when multiple transactions are executed concurrently, only acceptable schedules are generated, regardless of how the operating-system time-shares resources (such as CPU time) among the transactions?**

Options:

- A) Backup and recovery
- B) Transaction control
- C) Performance tuning
- D) concurrency-control schemes

Correct Option: Option "D"

**Q 62.**

\_\_\_\_\_ causes the current transaction to abort.

Options:

- A) Rollback
- B) Commit
- C) Exit
- D) Save point

Correct Option: Option "A"

**Q 63.**

**Serializability of schedules generated by concurrently executing transactions can be ensured through one of a variety of mechanisms called**

Options:

- A) Backup and recovery
- B) Transaction control
- C) Performance tuning
- D) concurrency-control schemes

Correct Option: Option "D"

**Q 64.**

**Which of the following is responsible for ensuring the atomicity and durability properties of transactions?**

Options:

- A) The recovery-management component
- B) Transaction control
- C) Performance tuning
- D) concurrency-control schemes

Correct Option: Option "A"

**Q 65.**

**If a transaction  $T_i$  has obtained a shared-mode lock (denoted by S) on item Q, then**

Options:

- A)  $T_i$  cannot read, and cannot write, Q
- B)  $T_i$  can read, but cannot write, Q
- C)  $T_i$  can read, but can write, Q
- D)  $T_i$  can read, but cannot read, Q

Correct Option: Option "B"

**Q 66.**

**If a transaction  $T_i$  has obtained an exclusive-mode lock (denoted by X) on item Q, then**

Options:

- A)  $T_i$  cannot read, and cannot write, Q
- B)  $T_i$  can read, but cannot write, Q
- C)  $T_i$  can both read and write Q
- D)  $T_i$  can read, but cannot read, Q

Correct Option: Option "C"

**Q 67.**

**We shall require that each transaction in the system follow a set of rules, called a \_\_\_\_\_, indicating when a transaction may lock and unlock each of the data items.**

Options:

- A) Transaction Protocol
- B) Backup and recovery protocol
- C) Performance Tuning Protocol
- D) locking protocol

Correct Option: Option "D"

**Q 68.**

**Locking protocols restrict the number of possible**

Options:

- A) Schedules
- B) Transactions
- C) Rollbacks
- D) Commit

Correct Option: Option "A"

**Q 69.**

**When a transaction requests a lock on a data item in a particular mode, and no other transaction has a lock on the same data item in \_\_\_\_\_, the lock can be granted.**

Options:

- A) a conflicting mode
- B) A transaction mode
- C) A recovery mode
- D) All of the options

Correct Option: Option "A"

**Q 70.**

**A transaction may obtain locks, but may not release any lock is called**

Options:

- A) Execution phase
- B) Growing phase
- C) Shrinking phase
- D) Recovery phase

Correct Option: Option "B"

**Q 71.**

**A transaction may release locks, but may not obtain any new locks is called**

Options:

- A) Execution phase
- B) Growing phase
- C) Shrinking phase
- D) Recovery phase

Correct Option: Option "C"

**Q 72.**

**strict two-phase locking protocol requires not only that locking be two phase, but also that all exclusive-mode locks taken by a transaction be held until that transaction**

Options:

- A) Stored
- B) Recover
- C) Rollback
- D) Commits

Correct Option: Option "D"

**Q 73.**

**Cascading rollbacks can be avoided by a modification of two-phase locking called the**

Options:

- A) Normal two-phase locking protocol
- B) strict two-phase locking protocol
- C) rigorous two-phase locking protocol
- D) Lazy two-phase locking protocol

Correct Option: Option "B"

**Q 74.**

**Which of the following requires that all locks be held until the transaction commits**

Options:

- A) Normal two-phase locking protocol
- B) strict two-phase locking protocol
- C) rigorous two-phase locking protocol
- D) Lazy two-phase locking protocol

Correct Option: Option "C"

**Q 75.**

**Method for determining the serializability order is to select an ordering among transactions in advance**

Options:

- A) two-phase locking protocol
- B) Locking Protocol
- C) Transaction Protocol
- D) Timestamp-Based Protocols

Correct Option: Option "D"



**Q 76.**

**explicit locking is being done at a lower level of the tree, but with only shared-mode locks is called**

Options:

- A) intention-shared (IS) mode
- B) intention-exclusive (IX) mode
- C) shared and intention-exclusive (SIX) mode
- D) All of the options

Correct Option: Option "A"

**Q 77.**

**explicit locking is being done at a lower level, with exclusive-mode or shared-mode locks is called**

Options:

- A) intention-shared (IS) mode
- B) intention-exclusive (IX) mode
- C) shared and intention-exclusive (SIX) mode
- D) All of the options

Correct Option: Option "B"

**Q 78.**

**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 is called**

Options:

- A) intention-shared (IS) mode
- B) intention-exclusive (IX) mode
- C) shared and intention-exclusive (SIX) mode
- D) All of the options

Correct Option: Option "C"

**Q 79.**

**The simplest scheme under the first approach requires that each transaction locks all its data items before it begins execution is called**

Options:

- A) deadlock prevention
- B) deadlock detection
- C) deadlock recovery
- D) None of the options

Correct Option: Option "A"

**Q 80.**

**Recover from the deadlock when the detection algorithm determines that a deadlock exists is called**

Options:

- A) deadlock prevention
- B) deadlock detection
- C) deadlock recovery
- D) None of the options

Correct Option: Option "C"

**Q 81.**

**Maintain information about the current allocation of data items to transactions, as well as any outstanding data item requests is called**

Options:

- A) deadlock prevention
- B) deadlock detection
- C) deadlock recovery
- D) None of the options

Correct Option: Option "B"

**Q 82.**

**Which of the following is not a valid failure classification of database?**

Options:

- A) Transaction failure
- B) System crash
- C) Disk failure
- D) Network Failure

Correct Option: Option "D"

**Q 83.**

**The most widely used structure for recording database modifications is the**

Options:

- A) Log
- B) Backup
- C) Transaction
- D) Locks

Correct Option: Option "A"

**Q 84.**

**The \_\_\_\_\_ ensures transaction atomicity by recording all database modifications in the log, but deferring the execution of all write operations of a transaction until the transaction partially commits.**

Options:

- A) Immediate Database Modification
- B) deferred-modification technique
- C) Checkpoints
- D) Shadow Paging

Correct Option: Option "B"

**Q 85.**

**The redo operation must be \_\_\_\_\_; that is, executing it several times must be equivalent to executing it once.**

Options:

- A) Transitive
- B) Commutative
- C) idempotent
- D) Identity

Correct Option: Option "C"

**Q 86.**

The \_\_\_\_\_ allows database modifications to be output to the database while the transaction is still in the active state.

Options:

- A) Immediate Database Modification
- B) deferred-modification technique
- C) Checkpoints
- D) Shadow Paging

Correct Option: Option "A"

**Q 87.**

Transactions are not allowed to perform any update actions, such as writing to a buffer block or writing a log record, while a \_\_\_\_\_ is in progress.

Options:

- A) Immediate Database Modification
- B) deferred-modification technique
- C) Checkpoints
- D) Shadow Paging

Correct Option: Option "C"

**Q 88.**

An alternative to log-based crash-recovery techniques is

Options:

- A) Immediate Database Modification
- B) deferred-modification technique
- C) Checkpoints
- D) Shadow Paging

Correct Option: Option "D"

**Q 89.**

To \_\_\_\_\_ a failed transaction, we must undo the updates performed by the transaction.

Options:

- A) Commit
- B) roll back
- C) Update
- D) Delete

Correct Option: Option "B"

**Q 90.**

A typical transaction server system today consists of multiple processes accessing data in shared memory. The processes that form part of the database system include

Options:

- A) Server processes
- B) Lock manager process
- C) Database writer process
- D) All of the options

Correct Option: Option "D"

**Q 91.**

**Data that are shipped to a client on behalf of a transaction can be stored at the client, even after the transaction completes is called**

Options:

- A) Page shipping
- B) Locking
- C) Data caching
- D) Lock caching

Correct Option: Option "C"

**Q 92.**

**Which of the following are measures of performance of a database system?**

Options:

- A) Throughput
- B) Response Time
- C) Error Recover
- D) Failure Transaction Recovery

Correct Option: Option "A,B"

**Q 93.**

**Which of the following are techniques for both ordered indexing and hashing?**

Options:

- A) Access types
- B) Access time
- C) Insertion time
- D) All of the options

Correct Option: Option "D"

**Q 94.**

**An index record appears for only some of the search-key values is called**

Options:

- A) Primary Index
- B) Dense index
- C) Sparse index
- D) Secondary Index

Correct Option: Option "C"

**Q 95.**

**An index record appears for every search-key value in the file is called**

Options:

- A) Primary Index
- B) Dense index
- C) Sparse index
- D) Secondary Index

Correct Option: Option "B"

**Q 96.**

\_\_\_\_\_ must be dense, with an index entry for every search-key value, and a pointer to every record in the file.

Options:

- A) Primary Index
- B) Dense index
- C) Sparse index
- D) Secondary Index

Correct Option: Option "D"

**Q 97.**

In DBMS all files are ordered sequentially on some search key. Such files, with a \_\_\_\_\_ on the search key, are called index-sequential files.

Options:

- A) Primary Index
- B) Dense index
- C) Sparse index
- D) Secondary Index

Correct Option: Option "A"

**Q 98.**

The \_\_\_\_\_ structure is the most widely used of several index structures that maintain their efficiency despite insertion and deletion of data.

Options:

- A) Primary Index
- B) Dense index
- C) Sparse index
- D) B+-tree index

Correct Option: Option "D"

**Q 99.**

A \_\_\_\_\_ organizes the search keys, with their associated pointers, into a hash file structure.

Options:

- A) Primary
- B) Secondary
- C) Hash Index
- D) B+-tree index

Correct Option: Option "C"

**Q 100.**

When SQL server is installed, which of the following database are created by default?

Options:

- A) Master
- B) Model
- C) Both Master and Model
- D) Root

Correct Option: Option "C"