Model Viva Questions for "**Client Server Application Lab**"

Common to: **IT 6th sem**

Title of the Practical: Assignments and Practice in developing client server programs using Oracle.

Q1: What is an Object server in client server environment?
A1: With an object server, the Client/Server application is written as a set of communicating objects. Client object communicate with server objects using an Object Request Broker (ORB). The client invokes a method on a remote object. The ORB locates an instance of that object server class, invokes the requested method and returns the results to the client object. Server objects must provide support for concurrency and sharing. The ORB brings it all together.

Q2: What is Structured Query Langauge (SQL)?
A2: SQL is a powerful set-oriented language which was developed by IBM research for the databases that adhere to the relational model. It consists of a short list of powerful, yet highly flexible, commands that can be used to manipulate information collected in tables. Through SQL, we can manipulate and control sets of records at a time.

Q3: What are the five major technologies that can be used to create Client/Server applications in client server environment?
A3: Database Servers
TP Monitors
Groupware
Distributed Objects
Intranets

Q4: What is a Transaction server in client server environment?
A4:With a transaction server, the client invokes remote procedures that reside on the server with an SQL database engine. These remote procedures on the server execute a group of SQL statements. The network exchange consists of a single request/reply message. The SQL statements either all succeed or fail as a unit.

Q5: What are the two types of OLTP in client server environment?
A5: TP lite, based on stored procedures.
TP heavy, based on the TP monitors

Q6: What is a Database Server in client server environment?
A6: With a database server, the client passes SQL requests as messages to the database server. The results of each SQL command are returned over the network. The server uses its own processing power to find the request data instead of passing all the records back to the client and then getting it find its own data. The result is a much more efficient use of distributed processing power. It is also known as SQL engine.

Q7: What is a Web server in client server environment?
A7: This new model of Client/Server consists of thin, protable, "universal" clients that talk to superfat servers. In the simplet form, a web server returns documents when clients ask for them by name. The clients and server communicate using an RPC-like protocol called HTTP.

Q8: What is meant by Transparency in client server environment?
A8:Transparency really means hiding the network and its servers from the users and even the application programmers.

Q9: 16 :: What is meant by 2-Tier architecture in client server environment?
A9: In 2-tier Client/Server systems, the application logic is either burried inside the user interface on the client or within the database on the server.

Example: File servers and Database servers with stored procedures.
Q10: What is ACID property in client server environment?
A10: ACID is a term coined by Andrew Reuter in 1983, which stands for Atomicity, Consistence, Isolation and Durability. ACID property is the basic property for transaction processing.
A – atomicity C – consistency I – isolation D - durability

Title of the Practical: Tutorial on selected topic may also be given.

(a) INTERACTIVE SQL- DDL DML, DQL

(b) PL/SQL

(c) DATABASE TRIGGERS

Q1: What is the command to see current user name ?
A1: Sql> show user;

Q2: 5. How do I display row number with records?
A2: To achive this use rownum pseudocolumn with query, like SQL> SQL> select rownum, ename from emp;
Output:
1 Scott
2 Millor
3 Jiyo
4 Smith

Q3: 16. Any three PL/SQL Exceptions?
A3:Too_many_rows, No_Data_Found, Value_Error, Zero_Error, Others

Q4: What are PL/SQL Cursor Exceptions?
A4: Cursor_Already_Open, Invalid_Cursor

Q5:Other way to replace query result null value with a text
A5: SQL> Set NULL 'N/A'
to reset SQL> Set NULL ''

Q6: What are the more common pseudo-columns?
A6: SYSDATE, USER , UID, CURVAL, NEXTVAL, ROWID, ROWNUM

Q7: What is the output of SIGN function?
A7: 1 for positive value,
0 for Zero,
-1 for Negative value.

Q8: What is the maximum number of triggers, can apply to a single table?
A8:12 triggers.

Q9:What are the most important DDL commanding Sql?
A9:The most important DDL statements in SQL are:
CREATE TABLE - creates a new database table
ALTER TABLE - alters (changes) a database table
DROP TABLE - deletes a database table
CREATE INDEX - creates an index (search key)
DROP INDEX - deletes an index

Q10: What is locking ?
A10: Locking are mechanisms intended to prevent destructive interaction between users accessing data. Locks are used to achieve.

Q11:What operator performs pattern matching?
A11: LIKE operator.

Q12:What is the use of the DROP option in the ALTER TABLE command?
A12: It is used to drop constraints specified on the table.

Q13:What operator tests column for the absence of data?
A13:IS NULL operator.

Q14: What are the privileges that can be granted on a table by a user to others?
A14: Insert, update, delete, select, references, index, execute, alter, all.

Q15: Which function is used to find the largest integer less than or equal to a specific value?
A15: FLOOR.

Q16:Which is the subset of SQL commands used to manipulate Oracle Database structures, including tables?
A16: Data Definition Language (DDL).

Q17: What is the full form of SQL ?

A17: Structured Query Language (SQL). It is pronounced “sequel”.SQl is a language that provides an interface to relational database systems. It was developed by IBM.

Q18: What is a deadlock in SQL ?
A18: Deadlock is a situation when two processes, each having a lock on one piece of data, attempt to acquire a lock on the other’s piece. Each process would wait indefinitely for the other to release the lock, unless one of the user processes is terminated. SQL Server detects deadlocks and terminates one user’s process.

Q19: What is livelock in SQL ?
A19: A livelock is one, where a request for an exclusive lock is repeatedly denied because a series of overlapping shared locks keeps interfering. SQL Server detects the situation after four denials and refuses further shared locks. A livelock also occurs when read transactions monopolize a table or page, forcing a write transaction to wait indefinitely.

Q20: What’s the difference between a primary key and a unique key?
A20: Both primary key and unique enforce uniqueness of the column on which they are defined. But by default primary key creates a clustered index on the column, where are unique creates a nonclustered index by default. Another major difference is that, primary key doesn’t allow NULLs, but unique key allows one NULL only.

Q21: What is candidate key, alternate key, composite key in SQL ?
A21: A candidate key is one that can identify each row of a table uniquely.Generally a candidate key becomes the primary key of the table. If the table has more than one candidate key, one of them will become the primary key, and the rest are called alternate keys.A key formed by combining at least two or more columns is called composite key.

Q22: What is the difference between a “where” clause and a “having” clause in SQL ?
A22: “Where” Clause in SQL is a kind of restiriction statement. You use where clause to restrict all the data from DB.Where clause is using before result retrieving. But Having clause is using after retrieving the data.Having clause is a kind of filtering command from the selected data.

Q23: What is the basic form of a SQL statement to read data out of a table?
A23: Basic form to read data out of table in SQL is “SELECT * FROM tablename”. Answer with “where” close wont be proper because it is an additional thing with basic select statement.

Q24: What’s the maximum size of a row in SQL table?
A24: 8060 bytes.

Q25: What are the tradeoffs with having indexes?
A25: Faster select
slower updates
Extra storage space to store indexes
Updates are slower because in addition to updating the table you have to update the index.

Q26: What’s the difference between DELETE TABLE and TRUNCATE TABLE commands in SQL?
A26: DELETE TABLE is a logged operation, so the deletion of each row gets logged in the transaction log, which makes it slow. TRUNCATE TABLE also deletes all the rows in a table, but it won’t log the deletion of each row, instead it logs the de allocation of the data pages of the table, which makes it faster. TRUNCATE TABLE can be rolled back

Q27:What is a “trigger”?
A27: Triggers are stored procedures created in order to enforce integrity rules in a database. A trigger is executed every time a data-modification operation occurs (i.e., insert, update or delete). Triggers are executed automatically on occurrence of one of the data-modification operations. A trigger is a database object directly associated with a particular table. It fires whenever a specific statement/type of statement is issued against that table. The types of statements are insert,update,delete and query statements. Basically, trigger is a set of SQL statements A trigger is a solution to the restrictions of a constraint.

Q28: How the triggers are attached to the table?
A28: When we write a trigger, we also have to give the reference of the table the trigger has to be fired on. The Data Dictionary too is used for this purpose. The view includes the trigger body, WHEn clause, triggering table, and trigger type.

Q29: What are triggering attributes?
A29: Triggers can be fired based on the following criteria:
Category - (INSERT, DELETE, UPDATE) i.e. which kind of DML statement causes the trigger to fire.
Timing – (BEFORE or AFTER) i.e. whether the trigger fires before the statement is executed of after.
Level – (Row or Statement) i.e. whether it fires once for each row affected by trigger statement or whether it fires once.

Q30: Difference between database triggers and form triggers.
A30: Database triggers (DBA)

* Fired when a DML operation is performed
* They manipulate data stored in Oracle tables
* They can cause other database triggers to fire.
* They can be fired from any session executing the triggering DML statements.

Form trigger (FT)

* Fired in response to any event that takes place while working with the forms.
* They manipulate data in Oracle tables as well as variables in forms.
* They cannot cause other form triggers to fire, but can fire other database triggers.
* They can be fired only from the form that define the trigger.