

Question Bank –Database Technologies (Solved/Unsolved)

Q.1 Fill in the blanks:

(1 Mark each)

1. **Redo Log Buffer** SGA stores all the redo log entries.
2. **Process** is a 'thread of control' or mechanism in Operating System that executes series of steps.
3. The data of a row in a table may not be able to fit the same data block. Data for row is stored in a chain of data blocks which is called as **Row chaining**
4. A sub-query cannot have a _____ clause and a _____ of selects.
5. A _____ is a set of values that may appear in one or more columns.
6. PL/SQL provides _____ keyword, which is used to name an exception.
7. An _____ defined as the collection of blocks which must be continuous whenever allocation takes place.
8. A _____ is a table that is currently being modified by a DML statement.
9. The _____ character is used to designate wild characters.
10. Indexes are created in conjunction with _____ and _____ constraints.
11. Types of views are _____ and _____.
12. The date function that returns a numerical value is _____.
13. To define access keys in the menu give the _____ symbol before the desired character.
14. An index may contain upto _____ columns.
15. To print the message along with the variable ew use the package _____.
16. To select data from a range of values _____ operator is used.
17. A _____ expression returns either TRUE or FALSE.
18. _____ number of columns can be used in an ORDER BY clause.
19. Once the values are inserted in a table, the size of its columns can only be **Increased** & can never be **decreased**
20. ROWID is a **pseudo** column
21. In DBMS terms, the number of rows in a table is called its **cardinality** & the no. of columns it has defines its **degree**
22. The most serious drawback in the ER model is that it cannot depict **relationships**
23. **Dummy records** is used to represent many to many relationship in the Network model
24. The data structure used in the Network model is **graph** & that used in the hierarchical model is **tree**
25. An SQL query is **interpreted** & a PL/SQL block is **compiled** before execution
26. The 4 phases of processing a cursor are **Declare, Open, Fetch & Close**
27. The **FOR UPDATE** clause when used with a SELECT query locks a table
28. When a user executes SELECT FOR UPDATE on a table, it tries to lock it, but if the table is already locked, the user is placed in a no-operation mode. This situation can be prevented by using **NOWAIT** clause

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29. A table whose primary key retains its uniqueness in the view created over it is called a **key preserved** table
30. **Instead of** trigger is used to take care of operations on columns of a Non Key-preserved table through the join view
37. A tablespace is a collection of **datafiles**
38. The SQL query for calculating the cube of 4 is **SELECT POWER(4, 3) FROM dual**
39. **WITH READ ONLY** clause when used with CREATE VIEW statement prevents the users from modifying the underlying base tables through the view
40. The **With admin option** clause of the GRANT command makes the recipient the owner of the granted object
41. The **With grant option** clause of the GRANT command allows the recipient to pass the privilege to others
42. The 5 important components of a Database Management system (DBMS) are **Database engine, data dictionary, query processor, report writer & form generator**
43. Specialization is a **IS-A** relationship and Composition is a **HAS-A** relationship
44. 1NF specifies that there should be no **repeating groups**
45. The join that combines every row (no matter matching or non-matching) of both the tables is a **FULL** join
46. All uncommitted data during the course of a transaction is stored in **REDO LOG buffer**
47. The precompiler used for SQL statements embedded in a C program is **Pro*C**
48. DBMS_OUTPUT is a **package** and PUT_LINE is a **function**
49. The 2 implicit variables available to a trigger that contain the row values before and after updates are **:new** and **:old**
50. The error codes for user defined error messages must lie between **-20000**, and **-20999**
51. **RAISE APPLICATION ERROR** statement terminates the PL/SQL block abruptly and displays the specified error message
52. A **NULL** value in the column indicates that the value is not applicable or currently not available
-

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- 53. init.ora file contains the no. of failed login attempts after which the SQL*PLUS application shuts down
- 54. A Sequence can be used to provide a surrogate key in a table that does not have a primary key of its own
- 55. Snapshots are the means of creating local copies of remote tables.
- 56. Materialized views are also known as Snapshots

Q.2 True or False

- 1. The use of DBMS automatically removes redundancies.
- 2. Relational model requires the use of connectors as 'links'.
- 3. In the network model a record can have many parents.
- 4. Char conserves memory as compared to varchar.
- 5. A table once created can be dropped.
- 6. The name of a table can be changed with Alter command.
- 7. A table can have more than one primary key.
- 8. The columns on which ORDER BY is done must be a part of <Select Statement>
- 9. For a valid UNION of two result sets, the column names of the result sets should match.
- 10. Char datatype stores only characters in the database.
- 11. The VARCHAR2 datatype comes under standard SQL datatypes
- 12. The maximum length of VARCHAR2 datatype is identical when used in a PL/SQL code and when used in a table
- 13. The ORDER BY clause whenever used should always be the last clause of an SQL query (True)
- 14. 4 The size of a column in a table cannot be decreased once a value is inserted in it (True)
- 15. The UNIQUE and FOREIGN keys cannot have NULL values (False)
- 16. Online Transaction Processing (OLTP) consists of more DML and less DQL statements(True)
- 17. Decision Support System (DSS) is used to understand the trends of data (True)
- 18. Database Manager is the person responsible for proper functioning of a DBMS. (False)
- 19. A set of privileges assembled together is called a ROLE (True)
- 20. A SELECT statement cannot be used to lock a table (False)
- 21. All functions performed by constraints can equally be performed by triggers (True)
- 22. By default, the trigger is created at ROW level (False)
- 23. A single trigger can be used for handling Insert/delete/update on a table (True)

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24. DDL operations, once performed are automatically committed & do not require any commit statement for confirmation (True)
25. No column of a Non-key preserved table can be modified through a view (True)
26. No trigger other than the INSTEAD OF trigger can be applied to a view (True)
27. PL/SQL programs residing at the client side are called named PL/SQL blocks (False)
28. The difference between a procedure and a function is that a procedure needs to be executed explicitly using EXECUTE whereas a function can be executed within an SQL statement as well (True)
29. The datatypes of parameters passed to stored procedures cannot have any width (True)
30. DDL statements cannot be executed within a PL/SQL code (False)
31. The updates made to a view are not reflected to the underlying base tables (False)
32. A single query cannot have WHERE, GROUP BY, HAVING and ORDER BY clauses simultaneously (False)
33. DECODE is a standard function specified by SQL 92 standards (False)
34. The two SELECT statements joined using UNION, INTERSECT and MINUS must have same no. of columns & datatypes, the size of these columns does not matter (True)
35. The UNION clause does not eliminate duplicates (False)
36. A view is non-updateable if it has a reference to ROWNUM (True)
37. An ORDER BY clause cannot be used in a CREATE VIEW statement (True)
38. ROWID is a datatype (True)
39. 2NF applies only to the tables with composite primary keys (True)
40. The inner join (or equi join) is same as the natural join (True)
41. The implicit variables :new and :old cannot be used in context of table level triggers (True)
42. A function and a table cannot have a same name but a function and a trigger can (True)
43. Indexing a table increases the speed of execution of queries based on it (True)
44. The HAVING clause can only contain aggregate functions (True)
45. The ROWNUM column can be modified through update statement (False)
46. SELECT NLOG(7) FROM dual returns the natural log of 7 (False)

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Q.3 Multiple Choice question

(1 Mark each)

1. Fetching past the last row of a cursor
 - A. Raises the NO_DATA_FOUND Exception
 - B. Raises the VALUE_ERROR Exception
 - C. Raises the CURSOR_NOT_FOUND Exception
 - D. Does not raise an exception
2. In the FOR UPDATE clause in cursors
 - A. Lock is not obtained on the rows fetched
 - B. All locks are released when COMMIT is issued
 - C. Locks for the rows processed before the COMMIT, are released
 - D. Locks are released when the cursor is closed
3. If a User-defined Exception has the same name as a Predefined Exception
 - A. There is a compilation error
 - B. The User-defined Exception overrides the Predefined Exception
 - C. The Predefined Exception overrides the User-defined Exception
 - D. None of the above
4. If a row is attempted to be fetched from an unallocated row in a PL/SQL table
 - A. A NULL value is returned
 - B. The VALUE_ERROR Exception is raised
 - C. The NO_DATA_FOUND Exception is raised
 - D. The value of the data returned cannot be predicted
5. Given this procedure


```

      Procedure dept_salary
      (v_bonus IN BOOLEAN, v_raise IN BOOLEAN,
      v_issue_chk IN OUT BOOLEAN) IS
      BEGIN
          v_issue_chk := v_bonus OR v_raise;
      END;
      
```

 If v_bonus = TRUE and v_raise = NULL, which value is assigned to v_issue_chk?
 - A. True
 - B. False
 - C. NULL
 - D. None
6. You create a view with the following statement


```

      CREATE VIEW COW_MILK_VW AS
      (Select cow_name, milk_type from COW_MILK);
      
```

 What will happen when a user attempts to INSERT a new cow_name and milk_type via this view?
 - A. The INSERT will fail.
 - B. The INSERT will succeed or fail based on whether the user can see the record once added.
 - C. The INSERT will succeed
 - D. The INSERT will succeed only if the user has the privilege to insert data into the view.
 - E. into the view.
 - F. The INSERT will succeed only if the user has the privilege to insert data into the table.
 - G. into the table.
7. Which of the following objects are dropped automatically when a table is dropped.
 - A. Procedure
 - B. Constraints
 - C. Views
 - D. Synonyms

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8. Consider the following four options from a single statement. Which of the following lines in the SELECT statement below contain an error.
- SELECT DECODE (EMPID, 58385,'INACTIVE','ACTIVE') EMPID
 - FROM EMP
 - WHERE SUBSTR (LASTNAME, 1, 1) > TO_NUMBER ('S')
 - AND EMPID > 02000
 - ORDER BY EMPID DESC, LASTNAME ASC;

9. User 'Janko' would like to insert a row into the Emp table, which has 3 columns: empid, lastname, salary. The user would like to enter data for empid 59694, lastname Harry, but no salary. Which statement would work best.
- INSERT INTO EMP VALUES (59694,'Harry', NULL);
 - INSERT INTO EMP VALUES (59694,'Harry');
 - INSERT INTO EMP (empid, lastname, salary) VALUES (59694,'Harry');
 - INSERT INTO EMP VALUES (Select 59694 from 'Harris');
 - INSERT INTO EMP(empid, lastname) VALUES (59694,'Harry');

10. Examine the trigger
- ```
CREATE OR REPLACE TRIGGER upd_team_salary FOR EACH ROW
BEGIN
 Update team
 Set salary = tot_salary + :new.salary
 Where ID = :new.team_id;
END;
```

Which statement must be added to make this trigger execute after updating the salary column of player table

- After update on player
  - After salary update of player
  - After update [salary] on player
  - After update of salary on player
11. For every new ballplayer added to the Player table, a record must be inserted into the Player\_Bat\_Stat table. You have written a trigger to accomplish this task. To which timing will this trigger be assigned.
- After
  - Instead of
  - Statement
  - Pre-Insert
12. Which of the following is one of the benefits of using procedures and functions
- Procedures and functions increase the number of calls to the database.
  - Procedures and functions are reparsed for multiple users by exploiting shared SQL areas.
  - Procedures and functions avoid reparsing for multiple users by exploiting shared SQL areas.
  - Testing of procedures and functions requires the database to be restarted to clear out shared SQL areas for future access.
13. Overall logical structure of a database can be expressed graphically by \_\_\_\_\_
- ER diagram
  - Records
  - Relations
  - Hierarchy
14. A table can have maximum \_\_\_\_\_no. Of Long Raw datatype columns

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- A. One  
B. No limit  
C. 255  
D. depends on tablespace
15. A user is setting up a join operation between Emp and Dept tables. The query should return all the employees, which are assigned dept, as well as the employees which are yet not assigned any dept.  
A. Select e.empid, d.head from emp e, dept d;  
B. Select e.empid, d.head from emp e, dept d where e.deptno = d.deptno;  
C. Select e.empid, d.head from emp e, dept d where e.deptno = d.deptno (+);  
D. Select e.empid, d.head from emp e, dept d where e.deptno (+)= d.deptno;
16. Output from a table called PLAYS with two columns, PLAY\_NAME and AUTHOR, is shown next. Which of the following SQL statements produced it?
- ```
PLAY_TABLE
-----
"Midsummer Night's Dream", SHAKESPEARE
"Waiting For Godot", BECKETT
"The Glass Menagerie", WILLIAMS
```
- A. select PLAY_NAME|| AUTHOR from PLAYS;
B. select PLAY_NAME, AUTHOR from PLAYS;
C. select PLAY_NAME||, ' || AUTHOR from PLAYS;
D. select PLAY_NAME||, ' || AUTHOR play_table from PLAYS;
17. Which of the following statements contains an error?
A. select * from EMP where EMPID = 493945;
B. select EMPID from EMP where EMPID = 493945;
C. select EMPID from EMP;
D. select EMPID where EMPID = 56949 and LASTNAME = 'SMITH';
18. Which of the following statements are NOT TRUE about ORDER BY clauses?
A. Ascending or descending order can be defined with the asc or desc keywords.
B. Only one column can be used to define the sort order in an order by clause.
C. Multiple columns can be used to define sort order in an order by clause.
D. Columns can be represented by numbers indicating their listed order in the select
E. clause within order by.
19. In order to perform an inner join, which criteria must be true?
A. The common columns in the join do not need to have shared values.
B. The tables in the join need to have common columns.
C. The common columns in the join may or may not have shared values.
D. The common columns in the join must have shared values.
20. A user is setting up a join operation between tables EMP and DEPT. There are some employees in the EMP table that the user wants returned by the query, but the employees are not assigned to department heads yet. Which SELECT statement is most appropriate for this user?
A. select e.empid, d.head from emp e, dept d;
B. select e.empid, d.head from emp e, dept d where e.dept# = d.dept#;
C. select e.empid, d.head from emp e, dept d where e.dept# = d.dept# (+);
D. select e.empid, d.head from emp e, dept d where e.dept# (+) = d.dept#;
21. Developer ANJU executes the following statement: CREATE TABLE animals AS SELECT * from

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- MASTER.ANIMALS; What is the effect of this statement?
- A table named ANIMALS will be created in the MASTER schema with the same data as the ANIMALS table owned by ANJU.
 - A table named ANJU will be created in the ANIMALS schema with the same data as the ANIMALS table owned by MASTER.
 - A table named ANIMALS will be created in the ANJU schema with the same data as the ANIMALS table owned by MASTER.
 - A table named MASTER will be created in the ANIMALS schema with the same data as the ANJU table owned by ANIMALS.
22. Which line of the following statement will produce an error?
- create table GOODS
 - (GOODNO number,
 - GOOD_NAME varchar2 check(GOOD_NAME in (select NAME FROM AVAIL_GOODS)),
 - constraint PK_GOODS_01
 - primary key (GOODNO));
 - There are no errors in this statement.
23. Which of the following is not a feature of a CURSOR FOR loop?
- Record type declaration
 - Opening and parsing of SQL statements
 - Fetches records from cursor
 - Requires exit condition to be defined
24. Which line in the following statement will produce an error?
- cursor action_cursor is
 - select name, rate, action
 - into action_record
 - from action_table;
 - There are no errors in this statement.
25. You issue the following statement. What will be displayed if the EMPID selected is 60494?
- ```
SELECT DECODE(empid,38475, 'Terminated',60494, 'LOA', 'ACTIVE') FROM emp;
```
- 60494
  - LOA
  - Terminated
  - ACTIVE
26. After executing an UPDATE statement, the developer codes a PL/SQL block to perform an operation based on SQL%ROWCOUNT. What data is returned by the SQL%ROWCOUNT operation?
- A Boolean value representing the success or failure of the update
  - A numeric value representing the number of rows updated
  - A VARCHAR2 value identifying the name of the table updated
  - A LONG value containing all data from the table
27. A procedure declares a user-defined exception but does not raise it explicitly. Which of the following statements is true about this function?
- The user-defined exception will never be raised.
  - The user-defined exception will be handled by a WHEN OTHERS exception handler.
  - The procedure will fail on compile.
  - The user-defined exception is defined incorrectly.
28. Which statement most accurately describes the result of not creating an exception handler for a raised exception?
- The program will continue without raising the exception.
  - There will be a memory leak.



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- C. Control will pass to the PL/SQL block caller's exception handler.  
D. The program will return a %notfound error.
29. Which three of the following are implicit cursor attributes?  
A. %found  
B. %too\_many\_rows  
C. %notfound  
D. %rowcount  
E. %rowtype
30. If left out, which of the following would cause an infinite loop to occur in a simple loop?  
A. loop  
B. end loop  
C. if-then  
D. exit
31. Which of the following is not a feature of a CURSOR FOR loop?  
A. Record type declaration  
B. Opening and parsing of SQL statements  
C. Fetches records from cursor  
D. Requires exit condition to be defined
32. Developer JANET receives an error due to the following statement in the DECLARATION section: PI  
CONSTANT NUMBER;. The problem is because:  
A. There is not enough memory in the program for the constant.  
B. There is no value associated with the constant.  
C. There is no datatype associated with the constant.  
D. PI is a reserved word.
33. The OTHERS exception handler is used to handle the OTHERS raised exception.  
A. TRUE  
B. FALSE
34. Which of the following statements are true about WHILE loops?  
A. Explicit exit statements are required in while loops.  
B. Counter variables are required in while loops.  
C. An if-then statement is needed to signal when a while loop should end.  
D. All exit conditions for while loops are handled in the exit when clause.
35. Which line in the following statement will produce an error?  
A. cursor action\_cursor is  
B. select name, rate, action  
C. into action\_record  
D. from action\_table;  
E. There are no errors in this statement.
36. The command used to open a CURSOR FOR loop is  
A. open  
B. fetch  
C. parse  
D. None, cursor for loops handle cursor opening implicitly.
37. After executing an UPDATE statement, the developer codes a PL/SQL block to perform an operation based on SQL%ROWCOUNT. What data is returned by the SQL%ROWCOUNT operation?  
A. A Boolean value representing the success or failure of the update  
B. A numeric value representing the number of rows updated  
C. A VARCHAR2 value identifying the name of the table updated

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- D. A LONG value containing all data from the table
38. A developer would like to use referential datatype declaration on a variable. The variable name is EMPLOYEE\_LASTNAME, and the corresponding table and column is EMPLOYEE, and LASTNAME, respectively. How would the developer define this variable using referential datatypes?
- Use employee.lname%type.
  - Use employee.lname%rowtype.
  - Look up datatype for EMPLOYEE column on LASTNAME table and use that.
  - Declare it to be type LONG.
39. The RAISE\_APPLICATION\_ERROR( ) procedure defines errors returned in which of the following numeric ranges?
- 00000 and -99999
  - 01200 and -01299
  - 00030 and -00039
  - 20000 and -20999
40. When developing a PL/SQL library, the developer defines variable NUM2 as IN OUT in the ADD\_NUMS( ) function. Which of the following statements may happen as a result of this?
- The add\_nums( ) function will not compile.
  - Code running after add\_nums( ) that uses the NUM2 variable may behave unpredictably because NUM2's value was changed in add\_nums( ).
  - The add\_nums( ) function will return errors to the user when run.
  - The add\_nums( ) function will cause a memory leak.
41. In which areas of a PL/SQL block must the developer place code for user-defined exceptions? (Choose three)
- Command line PL/SQL block call
  - Variable declaration section
  - Executable section
  - Exception handler
42. A procedure declares a user-defined exception but does not raise it explicitly. Which of the following statements is true about this function?
- The user-defined exception will never be raised.
  - The user-defined exception will be handled by a WHEN OTHERS exception handler.
  - The procedure will fail on compile.
  - The user-defined exception is defined incorrectly.
43. Which of the following lines in the PL/SQL source code will return an error?
- create procedure estatus (
  - eid NUMBER, statchar CHAR ) is begin
  - select status into statchar from EMP where EMPID = eid; end;
  - There are no errors in this code block
44. Which of the following trigger types will be impacted by constraining factors brought on by mutating tables?
- Row triggers only
  - Statement triggers only
  - Both row and statement triggers
  - Neither row or statement triggers
45. The developer issues the following statement:
- ```
CREATE OR REPLACE TRIGGER soccer_fans_snacks_02 BEFORE DELETE ON
SOCCER_FANS
BEGIN
```

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```
DELETE FROM soccer_fans_snacks
END;
WHERE fan_id = :old.fan_id;
Why will trigger creation fail?
```

- A. The row trigger does not properly reference the old value in FAN_ID.
- B. The statement trigger should have been defined as a row trigger.
- C. The statement trigger fires after the delete statement is processed.
- D. The row trigger does not properly define the associated table

46. To find information about trigger status, which of the following views are appropriate?

- A. ALL_TRIGGERS
- B. ALL_OBJECTS
- C. ALL_TRIGGER_COLS
- D. ALL_SOURCE

47. UPDATE OR DELETE ON SOCCER_FAN_SNACKS. Which two of the following keywords may be useful in your trigger source code to distinguish what should run, and when?

- A. inserting
- B. updating
- C. deleting
- D. truncating

48. The SOCCER_FANS table has a trigger associated with it that inserts data into SOCCER_FANS_SNACKS whenever rows are inserted into SOCCER_FANS. A foreign key constraint exists between FAN_ID on SOCCER_FANS and SOCCER_FANS_SNACKS. What happens when the trigger fires?

- A. The trigger processes normally.
- B. The trigger invalidates.
- C. The trigger execution fails because of a mutating or constraining table.
- D. The trigger execution succeeds because the trigger is a statement trigger.

49. The developer issues the following statement:

```
CREATE OR REPLACE TRIGGER soccer_fans_snacks_02 BEFORE DELETE ON
SOCCER_FANS
FOR EACH ROW
BEGIN
DELETE FROM soccer_fans_snacks
WHERE fan_id = :prechange.fan_id;
END;
```

Why does the trigger fail on creation?

- A. The statement trigger improperly references the changed row data.
- B. The row trigger does not define prechange as the referencing keyword for old column values.
- C. Row triggers cannot process before the triggering statement.
- D. Statement triggers cannot process before the triggering statement.

50. Table SOCCER_FAN_SEAT contains two columns: FAN and SEAT_NUM.

A trigger is created in this table, whose triggering statement definition is AFTER UPDATE OF SEAT_NUM ON SOCCER_FAN_SEAT. You issue an UPDATE statement that changes column FAN only. Which of the following best describes what happens next?

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- a) The trigger fires successfully.
 - b) The trigger fires unsuccessfully.
 - c) Nothing, the SEAT_NUM column was not updated.
 - d) The trigger invalidates
51. The maximum length of varchar2 when used in PL/SQL block is
- A. 16k
 - B. 32k**
 - C. 4k
 - D. Either b or c
52. The max length of varchar2 when used in a table is
- A. 16k
 - B. 32k
 - C. 4k**
 - D. Either b or c
53. Any value added to NULL gives
- A. the value itself.
 - B. 0
 - C. NULL**
 - D. Unpredictable
54. The keys that can have NULL values are
- A. Primary Key
 - B. Unique Key
 - C. Foreign Key
 - D. Both b and c**
55. A Decision Support System (DSS) consists of
- A. More DML, less DQL
 - B. More DQL, less DML**
 - C. Half DML, half DQL
 - D. Only DML
56. The number of columns in a table is known as its
- A. Degree**
 - B. Cardinality
 - C. Domain
 - D. Range
- ANS-(a)
57. The clause(s) that every SQL Server query must have is/are
- A. Select**
 - B. From
 - C. Where
 - D. Both (a) and (b)
 - E. (a),(b) and (c)
58. System event triggers are always
- (a) Row level
 - (b) Table level
 - (c) Schema level**
 - (d) Either (b) or (c)
59. Triggers can be written for
- A. Insert, delete, update

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- B. Create, alter, drop
C. Login, logout
D. Both (a) and (b)
E. **(a) , (b) and (c)**
60. Rollback and Commit affect
(a) Only DML statements
(b) Only DDL statements
(c) Both (a) and (b)
(d) All statements executed in SQL*PLUS ANS-(a)
61. The NOWAIT option works for
(a) Implicit cursors only
(b) Explicit cursors only
(c) Both (a) and (b)
(d) Neither (a) or (b) ANS-(a)
62. The query associated with a cursor is executed in
(a) Declare phase
(b) Open phase
(c) Fetch phase
(d) Close phase
63. The INSTEAD OF trigger works at
(a) Row level
(b) Table level
(c) Schema level
(d) Database level
64. The default parameter type in stored procedures is
(a) IN
(b) OUT
(c) INOUT
(d) There is no default type
65. GRANT and REVOKE are
(a) DDL statements
(b) DML statements
(c) DCL statements
(d) None of these
66. The value of INSTR('CALIFORNIA','A',1,2) is
(a) 2
(b) 1
(c) 10
(d) 9 ANS-(c)
67. The correct syntax of DECODE statement is
(a) DECODE(if1,then1,if2,then2,.....,else)
(b) DECODE(if1,then1,else1,if2,then2,else2.....,)
(c) DECODE(value,if1,then1,else1,if2,then2,else2.....,)
(d) None of these ANS-(d)
68. Consider the following where clause
WHERE A.no=B.no(+)
The above outer join lists
(a) All matching & non-matching rows of table B
(b) All matching & non-matching rows of table A

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- (c) All non-matching rows of table B
(d) All non-matching rows of table A ANS-(b)
69. TRUNCATE TABLE statement
(a) Drops a table temporarily
(b) Removes all rows of a table
(c) Removes specified number of rows from a table
(d) Removes all constraints from a table ANS-(b)
70. Consider a table OLD with few rows. The statement
CREATE TABLE new AS SELECT * FROM OLD
WHERE 1=2
(a) copies all the rows from OLD to NEW
(b) creates a dummy NEW table
(c) creates an empty NEW table with column definitions same as OLD
(d) creates a table NEW that acts as a synonym for OLD ANS-(c)
71. In a query with a GROUP BY clause, the columns in the SELECT clause
(a) must be aggregate functions only
(b) must also appear in the GROUP BY clause
(c) must also appear in the GROUP BY and HAVING clauses
(d) Both (a) and (b)
(e) Can be selected arbitrarily ANS-(d)
72. The name of the only column in the DUAL table is
(a) X
(b) C
(c) DUMMY
(d) None of these ANS-(c)
73. TNS in the file tnsnames.ora stands for
(a) Transparent Network Substrate
(b) Transport Network Substrate
(c) Transparent Network System
(d) Transparent Network Server ANS-(a)
74. Comments in a PL/SQL code are inserted using
(a) –
(b) /* */
(c) Both (a) and (b)
(d) # ANS-(c)
75. The CHAR and NCHAR data types
(a) have no difference
(b) belong to two different character sets
(c) have different storage requirements
(d) have different storage requirements and retrieval time ANS-(b)
76. Consider a table TAB with a single row
NAME
CHARRIS
Then, the query
SELECT SUBSTR(Name,-3) FROM TAB gives
(a) RIS
(b) CHA

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(c) ARRIS

(d) ARR

ANS-(a)

77. The wild card character % used in strings means

(a) any number of characters

(b) one or more characters

(c) at least one character

(d) at least one alphabet

ANS-(a)

Q.4 Answer the following

(1 Mark each)

1. What is a select statement? Name the two required components of a select statement.
2. What is a schema?
3. What is the DUAL table? Why is it used?
4. What is a column alias? For what situations might column aliases be useful?
5. What are two ways to define aliases for columns?
6. What is column concatenation? What special character sequence is used to concatenate columns?
7. How can a user put row data returned from a select statement in order? What are the various sort orders that can be used with this option?
8. What are the two ways to specify the column on which sort order should be defined?
9. What is a where clause? On what principle does this clause operate to determine which data is selected?
10. Identify some of the character, number, and date functions available in SQL. What are two functions that allow you to transform column values regardless of the datatype?
11. What are other types of functions that perform operations on columns of specific datatypes?
12. What is the purpose of the nvl() function? What datatypes does it accept? What is the purpose of a decode() statement? What datatypes does it accept?
13. Name some character functions? Can two functions be combined? Why or why not?
14. Name some single-value number functions. What types of applications are these functions typically used in?
15. What function is used to determine the size in bytes of a given value or column?
16. Which date functions return information in the DATE datatype? Which one returns information in a datatype other than DATE?
17. Identify some conversion functions. Which conversion functions are commonly used?
18. What is a table join? How is a table join produced?
19. How does an outer join remedy the situation where a lack of corresponding values in the shared column of two tables causes rows from neither table to be selected? What is the special character used to denote outer joins?
20. What is a self join? How might a self join be used?
21. How are group functions incorporated into select statements? How many rows of output can usually be expected from a query using a group function?
22. What is ROWID? Is ROWID stored in a table?
23. How is the group by clause of a select statement used? (With Example)
24. Identify some situations where statements containing the group by clause return errors.
25. What is the having clause, and what function does it serve?

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26. How can the user specify values to fulfill having criteria without actually knowing what the values themselves are?
27. What is a subquery? When might a user want to incorporate a subquery into a database select statement?
28. What are some situations where a where clause may be sufficient in place of a subquery?
29. What is variable scope? What is a local variable? What is a global variable?
30. What is the distinct keyword, and how is it used?
31. Can you use the order by clause within select statements with subqueries? Why or why not?
32. What are three types of data relationships?
33. What is functional dependency?
34. What is required of two tables in order for the tables to be related?
35. What is a relational database model?
36. What are the components of a relational database? How are they used?
37. What is an entity-relationship diagram and how is it read?
38. What is a logical data model? Identify some methods used to translate an entity-relationship diagram into a data model.
39. What command is used to create tables?
40. What is an integrity constraint? What are the five types of integrity constraints?
41. Describe some table naming conventions.
42. What should be included in the name of a table that has a referential integrity constraint with another table, in which the table referring to the other table is the child table?
43. What are some of the differences between the CHAR and the VARCHAR2 datatype?
44. How is data stored in the DATE datatype? What is the ROWID datatype?
45. How can a table be created with data already populated in it?
46. What is the data dictionary?
47. When can a user not change data in a table?
48. What statement is used to change the definition of a table?
49. What process is used to change a NULLable column to one with a NOT NULL constraint?
50. What are some of the rules and guidelines for changing column definitions?
51. What are some of the ways integrity constraints can be changed on a table?
52. What are some rules that must be adhered to for modification of each type of constraint?
53. What are two options for deleting data from a table?
54. Is truncating a table part of DML or DDL? Explain.
55. How is a database object name changed? What are some of the effects of renaming a table?
56. What is another way to duplicate the effect of renaming a table?
57. How can table remarks be entered and where are they stored?
58. How can you reference comments on a database object?
59. What is a sequence? What are some ways a sequence can be used?
60. What are CURRVAL and NEXTVAL? What happens to CURRVAL when NEXTVAL is selected?
61. What statement is used for creating a sequence?
62. What are the options used for sequence creation?

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63. What statement is used to modify a sequence definition?
64. When do changes to a sequence take effect?
65. What are the effects of dropping a sequence?
66. What are two reasons for using views?
67. What is a simple view? How does it differ from a complex view?
68. What statement is used to alter the definition of a view?
69. Identify two reasons for using indexes.

Q.5 Answer the following

(2 Marks each)

1. What is SGA?
2. What is PGA?
3. What is Database Buffer Cache
4. What are Redo Log Files?
5. What are procedures?
6. What are Packages?
7. How do u implement the If statement in the Select Statement
8. What are snapshots?
9. What are different types of views?
10. What are the Pct Free and Pct Used?
11. What is a 2 Phase Commit?
12. What is the difference between deleting and truncating of tables?
13. What are mutating tables?
14. What is the Difference between a post query and a pre query?
15. Can U disable database trigger? How?
16. What is clustered index?
17. What are the advantages of normalization of data?
18. What is a sequence? How is it activated? Give one use
19. What is the purpose of having an Execution section in a Package Body?
20. What is the advantage of using stored procedures?
21. What is the difference between nested query and co-related query?
22. Explain different types of views
23. Explain cursors? What are reference cursors?
24. What are some advantages of using PL/SQL to access the database?
25. Where is PL/SQL compiled and stored?
26. What is the difference between a named and an anonymous code block?
27. Identify some of the database and nondatabase datatypes in PL/SQL that can be used.
28. How can you declare PL/SQL variables without explicitly identifying the datatype? How do you declare a variable with an initialized value?
29. How do you declare a constant? Why might you use a constant?

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30. Where can a variable be assigned a value?
31. What is the assignment operator? How does it differ from the equality operator?
32. What special characters are required for using data manipulation statements in PL/SQL?
33. What value can implicit cursor attributes serve in PL/SQL code?
34. What are some of the implicit cursor attributes a developer can use in PL/SQL?
35. How is nested conditional statement processing handled?
36. What are three different types of loops? What is an exit when statement? What is a loop counter, and for which type of loop is it most commonly used? Which type of loop doesn't require an explicit exit statement?
37. What is an implicit cursor and what is the syntax for creating one?
38. What is an explicit cursor? Why might a developer use an explicit cursor rather than an implicit one?
39. What is the syntax for creating an explicit cursor?
40. What must be done in order to make a cursor exist in memory?
41. What step must be accomplished to put data in a cursor?
42. How is data retrieved from a cursor?
43. What value does passing parameters to a cursor provide?
44. How can a cursor be defined to accept parameters?
45. What steps in cursor loop handling does a cursor for loop handle implicitly?
46. How is the exit condition defined for a cursor for loop?
47. What is a user-defined error? Where must code be defined in order to create a user-defined exception?
48. What is the others exception, and how is it used?
49. What syntax is used to create procedures in PL/SQL? What is the difference between is and as?
50. In what area of a named procedure is variable declaration handled?
51. What are the three ways PL/SQL will move parameters back and forth between program units?
52. Explain how each parameter passing method works in PL/SQL.
53. What syntax is used to create functions in PL/SQL?
54. What parameter passing type is not allowed in functions that is allowed in procedures?
55. What is a functions "purity level" and what are the conditions for meeting that purity level? If that level is met, can you call the function from a SQL statement? Why or why not?
56. What command is used to run a stored procedure from the SQL prompt in SQL*Plus? What error occurs when the procedure name is entered without this command?
57. How are functions called using SQL*Plus? How do you pass parameters out of order from how the function or procedure defines them?
58. Where is PL/SQL execution control passed if an unhandled exception is raised?
59. What is the others exceptions handler, and how is it used?
60. In what parts of a PL/SQL block must code appear supporting a user-defined exception? How is a user-defined exception raised?
61. Does the others exception handler support user-defined exceptions? Explain.
62. What parameters are passed to the raise_application_error() procedure?

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63. Describe two things that can be identified uniquely by using `raise_application_error()`.
64. Describe how exceptions are reported when the `raise_application_error()` procedure is used.
65. Define a database trigger. What programming language is a trigger developed with?
66. Define a stored procedure. Where are database triggers and stored procedures stored?
67. How does a database trigger differ from a stored procedure?
68. What determines when a trigger will fire with respect to its triggering event?
69. What special character must precede a reference to old or new data involved in the row trigger execution?
70. With row triggers, is it more efficient to define the trigger to fire before or after the triggering event is complete? Why?
71. How many triggers can be attached to a table? What are the different types of triggers you can attach? What datatype issues do you run into with triggers and the LONG datatypes?
72. What is a constraining table? A mutating table? What restrictions are there on row triggers regarding these two situations?

Q.6 Answer the following

(3 Marks each)

1. Explain cursors and its various attributes?
 2. Explain functions?
 3. How many Integrity Rules are there and what are they
 4. What are the Various Master and Detail relationships?
 5. What are the Various Block Coordination Properties?
 6. Explain Materialized Views
 7. What is the difference between candidate key, unique key and primary key.
 8. Explain in short about Privileges and Grants
 9. What are pseudo columns? Explain them?
 10. State any 6 of Codd's Twelve rules for a Relational Database
 11. Explain the modes of passing parameters to Procedures and Functions
 12. What are the ways of handling Unnamed Exceptions in PL/SQL. Explain any one.
 13. Write a short note on Temporary Tables.
 14. Write a short note on Refreshing Materialized views
 15. Write a short note on Autonomous transaction
 16. Write a short note on Normalization
 17. Write a short note on VARRAYs v/s Nested tables
 18. What is ROWID? Is ROWID stored in a table?
 19. What is a subquery? When might a user want to incorporate a subquery into a database select statement?
 20. What is an integrity constraint? What are the types of integrity constraints?
 22. What is the data dictionary?
-

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23. Consider a table : STUDENT (Name, Marks)
Write a query to retrieve 5 top scorers from the above table
24. Explain clearly, the differences between Super key, Candidate key, Primary key and alternate key with examples
25. Describe in brief, the contents of init.ora, listener.ora, tnsnames.ora and sqlnet.ora files
26. Explain E-R Model, its drawbacks and remedies
27. What is the criteria for a DBMS to be called a full fledged RDBMS
28. Enumerate the differences between Network, Hierarchical and Relational data models giving examples of each.
29. Explain the differences between “WITH GANT OPTION” and “WITH ADMIN OPTION” clauses
30. Define cursor and describe its types giving examples
31. Can a SELECT query be used to lock rows of a table? If yes, explain how the system can be prevented from going into a no-operation mode.
32. Explain the various steps to be taken for processing an explicit cursor
33. What are the various cursor attributes? Explain them
34. Explain clearly, the difference between CHAR, VARCHAR, NCHAR, NVARCHAR & VARCHAR2 datatypes
35. Write a trigger that prevents a user from inserting, deleting & updating a table.
36. Describe the basic structure of a PL/SQL program
37. Enlist and explain the implicit variables available to a trigger with an example. Are these also available in a table level trigger?
38. Explain how exceptions can be handled in a PL/SQL block
39. Explain the process by which a user-defined name can be given to a predefined exception.
40. Explain the difference between natural join, inner join, self join, outer join and
41. Equi joins.
42. Describe in brief, the various control structures available in PL/SQL
43. What is the difference between disabling and dropping a trigger and how is it done?
44. What is RAISE_APPLICATION_ERROR? When and how is it used?
45. How are exceptions explicitly generated and caught in a PL/SQL program? Explain
46. Write a trigger to count the number of logins of a particular user in a day.
47. What is a view? How is it different from a table?
48. What are the conditions for a view to be updateable?
-

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49. What are the advantages of a view? Is a view really stored?
50. What is de-normalization? When and why is it used?
51. What is a key-preserved and a non key-preserved table? In what context are they used? Explain with example.
52. What are INSTEAD OF triggers? When are they used?
53. What are the various types of triggers that can be applied to a view?
54. What are named and unnamed (anonymous) PL/SQL blocks? Why are they called so?
55. What are the differences between a procedure, function & a package?
56. What are the various types of parameters that can be passed to stored procedure? Explain when each is used.
57. Write the complete syntax of any 2 of the following ---
58. Procedure, Function and Package
59. What is a datafile? What does it contain & where is it stored?
60. What are correlated queries? Explain their application with examples
61. Consider a table EMPLOYEE (Empname, Deptname)
62. Write a query to find first 2 highly populated departments.
63. Considering above table, find departments with more than 10 employees

Q.7 Answer the following

(5 Marks each)

1. Write short notes on Physical Storage of the Data
2. What are Codd Rules
3. Explain Normalisation and its various forms.
4. Write the necessary select statements based on tables below:

Supplier	Parts	Orders
Scode (P Key)	Pcode (P Key)	OrderNo
Sname	Pname	Scode (Foreign key –references Scode of supplier)
Status	Colour	Pcode (Foreign key –references Pcode of parts)
City	Qty_in_hand	Qtysupplied
	Reorder_level	Orderdate
	Weight	Supplydate

5. Display the names of suppliers who have sold the maximum overall quantity.
6. Get suppliers supplying atleast one part supplied by Supplier S2
7. Get all suppliers not supplying Nuts

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8. For each part supplied get partno and names of cities supplying that part.
9. Find out the total quantity supplied by each supplier.
10. What are Tablespaces? Explain in detail with datafiles
11. Explain various background processes
12. How can you declare PL/SQL variables without explicitly identifying the datatype?
13. How does a database trigger differ from a stored procedure?
14. Explain the following functions with examples---
INSTR RPAD SOUNDIX TRANSLATE DECODE
15. Explain GROUP BY and HAVING clauses with example. Explain the scenario where these are used.
16. Describe following clauses in context of an SQL query ----
UNION INTERSECT MINUS
17. Explain the various types of constraints in a DBMS giving example of each.
18. What is a Database Management system? Explain its need and enumerate its advantages with examples
19. What is Normalization? Why is it done? Explain its advantages and disadvantages.
20. Write a note on any 2 of the following –
4NF, 5NF, BCNF
21. What are sequences? Explain with example giving the scenario where they are used.
22. What are the various phases a query goes through after it is submitted and before the result is displayed?
23. What are the various parts of a ROWID? What do they signify?
24. What is meant by partitioning of a table? Why is it done?
25. Explain the difference between column level and table level constraints with proper examples
26. Compare and contrast SQL and PL/SQL with proper reasoning.
27. What are the steps in executing a stored procedure with OUT parameters? Explain with example.
28. Explain how all the functionalities provided by various constraints can be equally achieved through triggers.
29. Write the syntax of a trigger that will fire on insert/update/delete of a particular column of a table. Is such a trigger possible? If not, why?
30. What is the difference between a Role and a privilege? Explain the syntax of granting and revoking privileges.
31. Consider 3 users – A, B and C. Suppose A grants certain privileges to B who then forwards them to C. Now A revokes privileges from B. What will happen to the privileges given to C? Explain with proper reasons.
32. What are the different types of backups taken of a database? Explain the scenario when which is used.
33. Explain the problems encountered while porting software from one RDBMS to other. Also suggest how to circumvent them.
34. What are the main components in a SQL SERVER database? Explain
35. Explain the contents and functions of login.sql file. When is it executed?
36. Describe when are the following clauses used in an SQL query with examples ---
EXISTS ANY IN
37. Can an SQL query have another sub query in its FROM clause? Describe the scenario when it might be

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used.

38. "When the exact size of data is known beforehand, the CHAR data type is preferable over VARCHAR".

Justify

39. Describe any 5 DDL, DML and DCL statements along with examples.

40. Explain Database Triggers

41. Explain Exceptions

42. What are Table Spaces, Data Files, Parameter File, and Control Files?
