

Q1). Which of the following SQL commands works on the structure/indexes of the table

DDL

DML

DCL

TCL

Q2). Which of the following is true with respect to weak entity set in an E-R diagram?

a weak entity set is always present in total participation with the identifying relationship set.

It contains sufficient attributes to form its primary key.

A diamond symbol is used for the representation of the relationship that exists between the two weak entity sets or one weak and strong entity set

None of them

Q3). The database system installed on the personal computer is an example of which type of architecture

1-tier

2-tier

3-tier

N-tier

Q4). Consider the relation student(reg_no, name, dob, course, age) which stores the roll, name, date of birth(dob), courses taken and age of the student. The attribute reg_no is unique for every student.

Identify the possible attribute type for age attribute.

Multi-valued attribute

Derived attribute

Composite attribute

Key attribute

Q5). Which of the following clause is used with alter command to update the exiting datatype of a column to some other datatype.

alter

modify

change

rename

Q6). Consider a attribute city whose value is set to ='Mumbai' while creating the table employee. Which of the following constraint is used to set such rule on an attribute.

Check

Default

Unique

Not NULL

Q7). In which of the following normal form, the transitive dependencies are taken care of

first normal form

second normal form

third normal form

BCNF

Q8). Consider a relation employee(empid,empname,salary).Which of the following SQL statements used to create empid as primary key after the table is already created.

alter table employee modify primary key(empid)

alter table employee add primary key(empid)

alter table employee alter primary key(empid)

alter table employee add empid primary key

Q9). What is the equivalent relational algebra query for the following SQL query

SELECT Name, Age FROM Student where age>18

$\pi \text{ name, age } (\sigma \text{ age} > 18)(\text{student})$

$\pi \text{ name, age} > 18)(\text{student})$

$\sigma \text{ name, age}(\pi \text{ age} > 18)(\text{student})$

$\sigma \text{ name, age} > 18)(\text{student})$

Q10). Consider the relation $R(A,B,C,D,E)$ and the following functional dependencies $AB \rightarrow C$, $D \rightarrow E$. Which of the following is true for the above scenario

AB is a candidate key

The above relation is in second normal form

The above relation is not in second normal form

The above relation is in third normal form

Q11). In a relation, if every non-key attribute is functionally dependent on a key attribute i.e primary key, then the relation will be in

1NF

2NF

3NF

4NF

Q12). `SELECT * FROM student WHERE lastname LIKE 'a%';`

What does above SQL statement select from the student table?

Selects all students with a lastname starting with "a".

Selects all students with a lastname ending with "a".

Selects all students with a lastname contains atmost one "a".

Selects all students with a lastname contains "a" anywhere

Q13). Which of the following statements is false

Isolation property is responsibility of concurrency management component

Managing durability is responsibility of recovery management component

Atomicity is managed by the recovery management component

None of them

Q14). The normalization of the tables in a database is done to remove which of the following anomalies

insert

update

delete

all of them

Q15). Consider the following schedule consists of two transactions(indicated by the subscript), which of the following problems exists in the schedule

R1(A)

R2(A)

W1(A) R2(A)

Unrepeatable Read

Dirty Read

Phantom Read

Lost Update

Q16). Consider the following transaction involving two bank accounts x and y.

read(x); x := x-30; write(x); read(y); y:=y+30; write(y)

The constraint that the sum of the accounts x and y should remain constant is that of

Atomicity

Durability

Consistency

Isolation

Q17). Which of the following is false with respect to graph-based protocol

The first lock by T_i can be applied to any data item

Subsequent locks are allowed only if the parent is locked

Relocking on same data item by the same transaction can be done any number of times

Unlock can be done at any time

Q18). The property of a transaction which states that either all the operations of a transaction to be executed or none at all is known as

Atomicity

Durability

Consistency

Isolation

Q19). Which of the following is a valid transaction state?

Partially committed

Committed

Failed

All of them

Q20). When a transaction reads a value, which is a value of an uncommitted transaction is known as

Unrepeatable Read

Dirty Read

Phantom Read

Lost Update

Q21). Which of the following is false in relation to time stamp ordering protocol

The unique number is assigned to each transaction on creation.

Time stamp ordering protocol ensures conflict serializability.

Read time stamp is the time stamp of the last transaction which executed read operation successfully

Write time stamp is the time stamp of the first transaction which executed write operation successfully.

Q22). Which of the following is used to close the IF statement block in PLSQL

END

ENDIF

END IF

Brackets

Q23). If CASE is executed without including else clause in it, and if any case does not match with any of the given cases then which of the following is true?

Error is displayed

program successfully compiled but will not display anything

Exception is raised

None of the above

Q24). Which of the following is not a predefined exception in PLSQL

TOO_MANY_ROWS

NO_DATA_FOUND

CASE_NOT_FOUND

RAISE_APPLICATION_ERROR

Q25). Which of the following is true about comments in PL/SQL?

Comments are explanatory statements.

The PL/SQL single-line comments start with the delimiter — (double hyphen)

Multi-line comments are enclosed by /* and */.

All of the above

Q26). Which of the following is used when you want to execute a sequence of statements based on the results of multiple Boolean expressions

IF-THEN statement

Simple CASE statement

Searched CASE statement

None of them

Q27). Which of the following is the fastest file access methods?

Linear

Indexed

Linked

All of them

Q28). Fragmentation of memory results in

Poor utilization of memory

Stack Overflow

Block not found

None of them

Q29). In which of the following scenarios, indexes should be avoided?

Indexes should not be used on small tables

Tables that have frequent, large batch updates or insert operations

Columns that are frequently manipulated should not be indexed.

All of them

Q30). Consider the following PLSQL code :

```
DECLARE  
  
a number := 0;  
  
BEGIN  
  
LOOP  
  
a := a + 1;  
  
END LOOP;  
  
dbms_output.put_line( 'After loop: ' || a );  
  
END;
```

What will be value of 'a' after loop is executed

3

4

0

Cannot be defined as it is an Infinite loop

Q31:- Which of the following triggers is used to audit the structure of the table

DML Triggers

Compound trigger

DDL trigger

Instead Trigger

Q32:- Consider a file of 8192 records with each record having 16 bytes stored in the file system with block size 512 bytes. Assume that the key pointer pair in the index file takes 8 bytes. The

file is ordered on a non-key field and file organization is unspanned. If the secondary index is built on the key field of the file, then the number of blocks in the first level is

64

512

128

1024

Q33:- Which of the following is the worst choice of calculating hash functions?

sum of digits modulo 8

sum of digits modulo 2

sum of digits modulo 5

sum of digits

Q34:- Which of the following is true about the index taking space on the disk?

It stores in memory as and when required.

Indexes are stored on the disk.

Indexes are never stored on the disk.

Index takes no space

Q35:- In a DBMS, which of the following data structures is used in indexing?

a) trees

b) hash

c)clustering

d)both a and b

Q36:- The hashing technique where a hash file either is allowed to expand or to shrink dynamically is known as_____.

Linear Hashing

Extendible Hashing

Non-Linear Hashing

External hashing

Q37:- In there is an index record for every search key value in the database.

Sparse Indexing

Dense Indexing

Clustering

None of them

Q38:- The clustered indexing is used on the type of fields which are.....

Non-key and ordering

Non-key and non-ordering

key and ordering

key and non-ordering

Q39:- Which of the following is true with respect to clustered index?

it is on a set of fields that form a candidate key.

it is on a set of fields that include the primary key.

the data records of the file are organized in the same order as the data entries of the index.

All of them

Q40:- Which of the following is used transforms a file key into a record location for storing the record at the physical location

Indexed file

Hashed file

Sequential file

none of them

Q41:- If the file is stored in the contiguous blocks in the memory, without wasting any memory, then the type of file organization is known as

Sorted

Unsorted

Spanned

Unspanned

Q42:- If a minimum cardinality is 0 then it signifies..... and if minimum cardinality is 1 then it is a.....

weak entity, strong entity

partial participation, total participation

strong entity, weak entity

total participation, partial participation

Q43:-Timestamp ordering protocol ensures

i.Freedom from deadlock

ii.Serializability

ANS:- Both I and II

Q44:- Which of the following normal forms is considered to be most adequate one practically

Ans:- 3NF

Q45:- Consider the following schedule consists of three transactions(indicated by subscript)

R1(X); R2(Y); R3(Y); W2(Y); W1(X); W3(X); R2(X);

W2(X)

Which one of the schedules below is the correct serialization of the above?

1->2->3

2->3->1

3->1->2

1->3->2

Q46-: Consider the following four schedule consisting of three transactions, which one of the is conflict serializable?

Ans-: $r_2(x); w_2(x); r_3(x); r_1(x); w_1(x)$

Q47-: Consider the following schedule consists of two transactions(indicated through subscript)

$R_1(A); W_1(A); W_2(A); R_2(A); \text{commit}_1; \text{commit}_2$

the above schedule is

Recoverable

Cascadeless

Both Recoverable and Cascadeless

None of them

Q48:- Consider the three transactions with 3, 2 and 4 operations respectively, how many total numbers of serial schedules are possible

2

3

5

6

Q49:- Which of the following protocols ensures both

- 1 Deadlock free system
- 2. Conflict serializability
- a) Time Stamp Ordering Protocol
- b) Lock based protocol
- c)Both a and b
- d)None of them

Q50:- What is the value of %NOTFOUND attributes when it is used inside the cursor?

NULL

TRUE

INVALID CURSOR

All of them

Q51:- What is the output of the following code?

```
declare  
a number DEFAULT 10;  
begin  
a:=5;  
dbms_output.put_line(a);  
end;
```

10

5

Error

Nothing will be printed

Q52:- What is the output of the following code?

```
declare  
a char(10) NOT NULL:='Hello';  
begin  
a:="";  
dbms_output.put_line(a);  
end;  
NULL
```

Hello

Statement Processed

numeric or value error

Q53:- Which of the following triggers is used to make the views updatable in nature

DML Triggers

DDL Triggers

Compound Triggers

Instead Of Triggers

Q54:- Which of the following is used to ensure the type compatibility between variable declared and columns of a table

Bind Variables

Constants

Anchored Variable

None of the above

Q55:- What of the following is true about the following code

```
begin  
a:=10;  
dbms_output.put_line(a);  
end;
```

the program will print the value a

the program will generate an error

the program will raise an exception

None of the above

Q56:- Which of the following is used to faster access the data in the database?

Normalization

Relational Model

Indexing

E-R Model

Q57:- Which of the following is not an attribute of an explicit cursor?

Ans:- %ROWTYPE

Q58:- If the database admin is using an indexed file allocation scheme, then maximum possible size of file depends on

Ans:- the number of blocks used for the index, and the size of the blocks