2ND SESSIONAL EXAM

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SUBJECT - DBMS

[SECTION - C]

Answer - 6

Tuple relation Calculus - It is a non-procedural query language which specify to select the tuples in a relation. It can select the tuple with range of values or tuples for certain attribute values etc.

Notation - $\{R \mid P(R)\}$

where R ⇒ Resulting Tuple

Domain Relation Calculus - It uses list of attribute tobe selected from the relation based on the condition. It is same as TRC, but differs by selecting the attribute rather than selecting whole tuple.

Notation - $\{a_1, a_2 a_3 \cdots a_n \mid P(a_1, a_2, a_3 \cdots a_n)\}$

where $a_1, a_2, a_3 \cdots a_n$ are attribute of the relation.

Example - $\{t \mid <Employee> Dept\_ID = 10\}$

[Answer -7]

JOIN - Join mean to combine something. In the case of SQL, JOIN means "To combine 2 or more tables".

Type of JOIN - following type of JOIN

① INNER-JOIN → It select records that have matching values in both tables as long as the condition is satisfied. It returns the combination of all rows from both the table where the condition satisfies.

② LEFT JOIN - It return all the values from left table & the matching values from the right table. If there is no matching join value, it will return NULL.

③ RIGHT JOIN - It return all the values from the rows of right table & the matched values from the left table. If there is no matching in bothe table it will return null.

④ full JOIN - It is result of a combination of both left & right outer join. JOIN table have all the records from both tables it put NULL on the place of matching not found.

[SECTION-B]

[Answer - 2(b)]

Super Key - A super key is a combination of all possible attributes that can uniquely identify the row or tuple in the given relation or table.

Ex - {employee_id} > {employee_id, email_id}
{email_id}

Condidate Key - It is an attribute or set of an attribute which can uniquely identify a tuple/row.

* It not allowed to have NULL values.

Example -
{emp_id} {email_id}

Primary Key - It is a one of the condidate Key chosen by the DB designer to uniqly identify the tuple or row in the relation or table.

* It value can never be NULL.

Exmple - {emp_id}

Foreign Key - An attribut is 1 table that refers to the PK in another table is known as foreign key.
It can take null values
Exmple - {Dept_id} both two table.

[Answer - 3 (b)]

FUNCTIONAL DEPENDENCIES

A FD $X \to Y$ in a relation holds if 2 tuples having same value of attribute A also have same value for attribute B.

where, X → determinant
Y → dependent

X	Y
a	1
b	2

$X \longrightarrow Y$

a → 1
b → 2

X	Y
a	1
a	2

Y is not functionally dependent on X.

a → 1
a → 2

[Answer - 4 (a)]

DDL	DML
• It stand for Data Definition Language.	• It stands for Data Manipulation Language.
• it is used to create Schema, table indexes.	• It is used to accessing & manipulating data in a DB
• It is used to store metadata information.	• It handle user request.
• It have following command → create → Alter → Drop → Truncate → Rename → Comment	• It have following command. → Select → insert → update → Delete.

[Answer – 5 (b)]

Relational Model

- It represent how data is stored in relational DB.
- RDBMS language : mySQL, Oracle
- Relational model can represent as a table with column & rows.

Characteristics –

→ Each rows has unique name

→ Each tuple is unique No duplicacy.

[Section – A]

(Answer – 1)

(a) JOINS in Relation – Cartition product of 2 relation (A×B) gives us all the possible tuples that are paired together.

(b) Cross product – It is basic & binary operation
- it combine of two different relation in to one.

Symbol – X

Notation – A × B

(c) Query Language - It is a language in which user requests information from the DB.

(d) Set theory Operator - It is a used for 2 relations like, intersection, union, difference.
- It is a binary opercators as they take 2 input

(e) SQL :- It stands for structured Query language.
- It is domain specific language.
- It is DB language.
- It is used for creation, deletion, accessing & modifieng rows.