END-SEM EXAMINATION

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Subject :- DBMS (CS310)

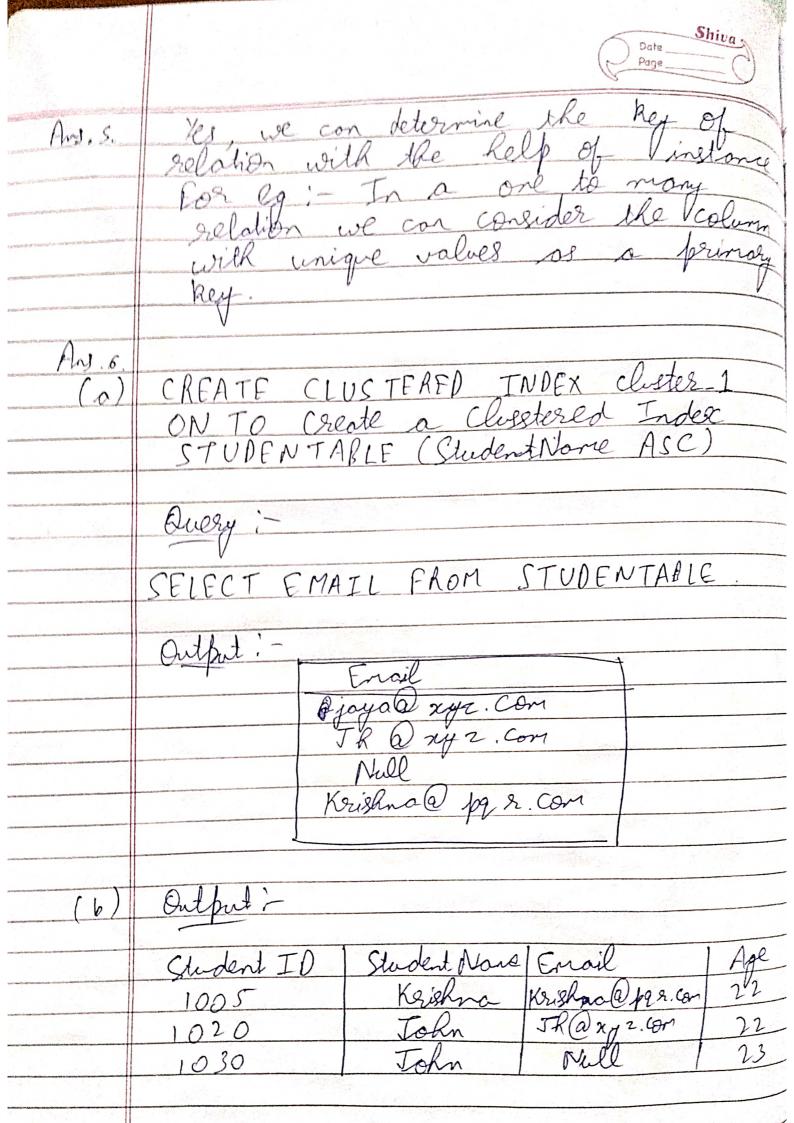**Ans.2.** DDL is important in SQL in DBMS because it is used to describe data structures & modify data.

DML is used to add, retrive & update data; it is not important for creating database structures.

Ans. 04. **(a)** ~~Data base~~ A user must guarantee that his or her transactions does not corrupt data or insert nonsense in the database. for comple, in a banking database, a user must guarantee that a cash withdraw transaction accurately models the amount a person removes from his or her occant. A database application would be worthless if a person removed ₹10,000 from an ATM but the transaction set their balance to zero. A DBMS must guarantee that transactions are executed fully & independently of other transaction. An essential property of DBMS is that a transaction should execute atomically,

or as if it is only transaction running. Also, transactions will either complete fully, or will be aborted & the database returned to its initial state. This ensures that the database remains consistent.

Ans.3   This is True.

A DBMS is typically shared among many users. Transactions from these users can be interleaved to improve the execution time of users queries. By interleaving queries users do not have to wait for other users transactions to complete fully before their own transaction begins. Without interleaving, if user A begins a transaction that will take 10 seconds to complete, & user B wants to begin transaction, user B would have to wait an additional 10 seconds for user A's transaction to complete before the database would begin processing user B's request.

Ans.7
(b) In a multiprogramming environment where multiple transactions can be executed simultaneously, it is highly important to control the concurrency of transactions. Concurrency control protocols to ensure atomicity, isolation, & serializability of concurrent transactions.

Integrity contraints must be maintained so that the database is consistent before & after the transaction. It refers to the correctness of a database.

Ans.1. Using empname as a clustered index is possible only when every employee will have a unique name. If this is ensured, the tuples will be organised according empname alphabatically.

Using empid as a clustered index is definitly ~~always~~ possible considering everyone already has a unique id assigned to them. The tuples will be organized accordinly to empid.

Using both empname & empid as a clustered indexes may not be possible but it is possible two none one clustered index & one non-clustered index.

Ans.5. Yes, we can determine the key of relation with the help of instance for eg:- In a one to many relation we can consider the column with unique values as a primary key.

Ans.6.

(a) CREATE CLUSTERED INDEX cluster_1 ON TO Create a Clustered Index STUDENTABLE (StudentName ASC)

Query :-

SELECT EMAIL FROM STUDENTABLE.

Output :-

Email
@jaya@ xyz.Com
JK @ xyz.Com
Null
Krishna@ pqr.Com

(b) Output :-

Student ID	Student Name	Email	Age
1005	Krishna	Krishna@pqr.Com	22
1020	John	JK@xyz.Com	22
1030	John	Null	23

Ans. 9 The following view on Emp can be updated automatically by updating Emp:

CREAE VIEW SeniorEmp AS SELECT * FROM Emp WHERE E.age > 50;

Update SeniorEmp set salary = 10000;

SELECT * FROM SeniorEmp;

Ans. 7.

$\rho(R1, Catalog)$
$\rho(R2, Catalog)$

$\pi_{R1.pid} \sigma_{R1.pid = R2.pid \wedge R1.sid \,!= R2.sid} (R1 \times R2)$

SQL

```
SELECT  C.pid
FROM  Catalog C
WHERE  EXISTS (SELECT C1.sid
              FROM  Catalog C1
              WHERE C1.pid = C.pid AND
              C1.sid ≠ C. sid)
```

Ans. 8. Find the suppliers name of the suppliers who supply a red part that causes less than $100 dollars.