CS310   END SEM EXAMINATION

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1(A)(i) Using empname as a clustered index is possible only when every employe will have a unique name. If it is ensured the tuples will be organized according to empname alphabitically.

2 Ansr
(i) representing information
(ii) external
(iii) internal schemas.
(iv) access
(v) update
(vi) representing data.

3 Ansr

It is true as a single DBMS is shared with many users, so as to improve the execution time for all the users transaction from the users can be interleaved so as to not wait in queue for other transactions to complete fully before their own transaction begins. Or for example if there are 5 billing machines in a super market and the transaction is done one after another then the use of 5 billing machines is a waste assuming they are all connected to one database. So interleaved transactions is used in DBMS.

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Ans a) Any user with respect to a transaction and database consistency has to guarantee not to insert data which is corrupt or can corrupt the database, also not ~~input~~ inserting ~~dat~~ useless data in the database that may cause error in database. ~~Inserting~~ ~~num~~ For example inserting numbers in a place supposed to take text input might cause problems.

b) With respect to concurrent execution of several transactions and database consistency DBMS should guarantee that all the transaction queries of different users should be independent of each other. and should be run distinctly too with no access to other transaction in between the execution of one transaction, through different transactions should be ~~co~~ running at the

same time. The process should either be completed fully or aborted in between and be returned to its initial state. so as not to cause any problems.

5Ans⁴ You cannot determine a a key of a relation given only one instance of the relation. The fact that the instance is "legal" is immaterial. A candidate key as defined here as a key not something that only might be a key. The instance shown is just one possible "snapshot" of the relation. At other time the same relation may have an instance that contains a totally different set of tuples and we cannot make prediction about those instances based only upon the instance that we are given.

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6Ans

CREATE CLUSTERED INDEX
IX – Person – LastName First Name
ON Person. Person (Last Name
ASC, First Name ASC);

#Ansr

Pid of parts supplied by atleast two different suppliers the query in relational algebra will be as follows

$$\rho(R_1, Catalog)$$
$$\rho(R_2, Catalog)$$

$$\pi_{R_1.pid} \sigma_{R_1.pid}$$

$$= R_2.pid \land P_1.sid = R_2.sid (R_1 \times R_2)$$

First doing $R_1 \times R_2$ to make it atleast two suppliers.

Then making the two suppliers have same part we use
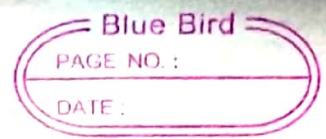
$$\sigma_{R_1.pid = R_2.pid}$$

Now to check whether the suppliers are different in the two R_1 R_2 columns we use

$$\sigma_{R_1.pid = R_2.pid \land R_1.sid} \\ = R_2.sid$$

8Ans^r

~~~~ ~~~~ The cost should be less than 100 and color is ~~or~~ Supposed to be red. So all the Suppliers selling parts which have red color and the cost of which is less than 100 i.e., $cost < 100$ is Supposed to be the output.

Ans⁼ To update the Emp schema automatically by updating Emp the following query will be used.

CREATE VIEW AutoEmp (eid, name, age, salary)

As Select E.eid, E.ename, E.age, E.salary
FROM Emp E
where E.age > 50 ,