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END SEM EXAM
DBMS

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1) - Using Empname as a clustered index is only possible when all the employee will have a unique name. If they all have unique name the tuples will be stored and organised according to Empname.

empid as a clustered index is possible because every employee can have a unique id assigned to them. Here the tuples will be organised according to empid.

Using both empname & empid as clustered index is not possible because there can be only one clustered index per table.

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2:- • DDL is important in SQL in DBMS because it is used to describe data structures and modify data

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

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3: True.
The statement is true because the database is typically shared among many users. Transactions can be interleaved to improve the execution time of user queries. Because of interleaving queries user do not have to wait for others users transactions to complete fully before their own transaction begins. Without interleaving two user will have to wait for the other to complete the transactions.

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4-a) In transaction management and database consistency there is nothing the user can be guarantee. There should not be any unethical methods use by user to use the services and the user should not share their transaction details with anybody. Because of all this user responsibility cannot be assured in terms of transaction and database consistency.

4-b) In a system where multiple transactions can be executed, it is very important to control the concurrency of transactions.
Integrity constraints should also be maintained so that the database of system is consistent before and after transaction.

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5:) Yes, we can determine the key of relation with the use of instance.
Example: consider a one to many relation; we can use the column with unique values as a primary key.

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6÷) a) CREATE CLUSTERED INDEX cluster_new ON STUDENTSTABLE (StudentName ASC)

Query :

```
SELECT Email FROM STUDENTSTABLE
```

Output :

Email
Jaya@xyz.com
Jh@xyz.com
Null
Krishna@pqr.com

b) Output :

StudentID	StudentName	Email	Age
1005	Krishna	Krishna@pqr.com	22
1020	John	Jh@xyz.com	22
1030	John	Null	23

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7÷) $\Pi_{R1.pid}(\sigma_{R1.pid = R2.pid \wedge R1.sid \neq R2.Sid}(\rho_{R1}\,Catalog \times \rho_{R2}\,Catalog))$

[query in Relational algebra].

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);
```

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Q:) Catalog

SID	PID	cost
1	1	10
1	2	15
1	3	20
2	1	5
2	3	115

Parts

PID	Pname	color
1	a	Red
2	b	Blue
3	c	Green

Suppliers :

SID	S Name	Address
1	c	a a a
2	a	b b b

output :

Sname
c
a

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9:) View query on Emp Schema that could be automatically updated by updating Emp :

```
CREATE VIEW upEmp (eid, name, age,
                   salary)
AS SELECT E.eid, E.ename, E.age,
          E.Salary
FROM Emp E
WHERE E.age > 50;
```