CMSM4122-CIA-1-2020-SA   Total points   10/10   ?

Choose the most appropriate alternative(s). Each question carries 1 mark.

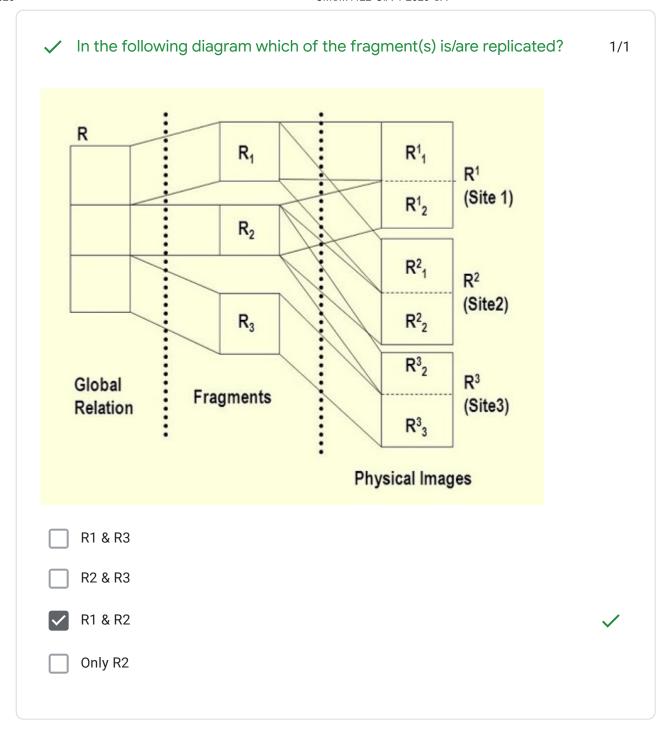
roll no *

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name *

Chayan Kumar Sengupta

✓ Reference architecture of DDBMS consist of   1/1

☑ Global external schema.   ✓

☑ Fragmentation schema   ✓

☑ Allocation Schema   ✓

☑ Schema for each local dbms   ✓

✓ Features of distributed database are   1/1

☑ Centralised control   ✓

☑ Data independence   ✓

☑ Reduction of Redundancy   ✓

☐ Simple Physical structure

✓ Which of the following are the components of DDBMS   1/1

☑ Database management component   ✓

☑ Data Communication Component   ✓

☑ Data Dictionary   ✓

☑ Distributed database component   ✓

✓ Which of the following rule is not required to be followed while defining   1/1
   fragments

◯ Completeness condition

◯ Reconstruction condition

⦿ Redundancy condition   ✓

◯ Disjointness condition

✓ **Choose the wrong alternative** 1/1

⦿ Fragmentation schema is at the lowest level in the reference architecture of ✓
DBMS

◯ Global schema describes the part of the distributed database that is relevant to
different users

◯ The allocation schema is a description of where the data are to be located

◯ The logical organization of data at each site is described by local conceptual
schema

✓ In the following diagram which of the fragment(s) is/are replicated? 1/1

☐ R1 & R3

☐ R2 & R3

☑ R1 & R2 ✓

☐ Only R2

✓ **Choose the correct statement(s)**   1/1

☑ Distribution transparency hides the internal details of the distribution from the   ✓
users

☑ Location transparency makes the user feel that as if the tables are stored locally   ✓
in the user's site

☑ Fragmentation transparency hides the fact that the table the user is querying on   ✓
is actually a fragment or union of some fragments

☐ Replication transparency ensures that replication of fragments are clearly known to
the the users

✓ **Choose the wrong alternative(s)**   1/1

☐ Horizontal Fragmentation is carried out with the help of Selection operation

☑ Vertical Fragmentation is carried out with the help of Selection operation   ✓

☑ Horizontal Fragmentation is carried out with the help of Project operation   ✓

☐ Vertical Fragmentation is carried out with the help of Project operation

✓ Following is an example of 1/1

```
SELECT EMP_ID, EMP _FIRST_NAME, EMP_LAST_NAME, AGE
FROM EMPLOYEE WHERE EMP_LOCATION = 'INDIA;
SELECT EMP_ID, DEPTID FROM EMPLOYEE WHERE EMP_LOCATION = 'INDIA;
SELECT EMP_ID, EMP _FIRST_NAME, EMP_LAST_NAME, AGE
FROM EMPLOYEE WHERE EMP_LOCATION = 'US;
SELECT EMP_ID, PROJID FROM EMPLOYEE WHERE EMP_LOCATION = 'US;
```

- ◯ Vertical fragmentation
- ◯ Derived horizontal fragmentation
- ◉ Mixed / hybrid fragmentation ✓
- ◯ None of the above

✓ Reasons for developing Distributed Database are 1/1

- ☑ Organisational and economic Reasons ✓
- ☑ Interconnection of existing databases ✓
- ☑ Incremental growth ✓
- ☑ Reliability and availability ✓

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