Date: 21st FEB 2018
Time: 18:30 Hrs

1st DATA BASE ENGINEERING ASSIGNMENTS FOR 4th Semester, CSE-2018

Q1. Write the advantages of DBMS over file system?

Q2. What is Data independence and abstraction?

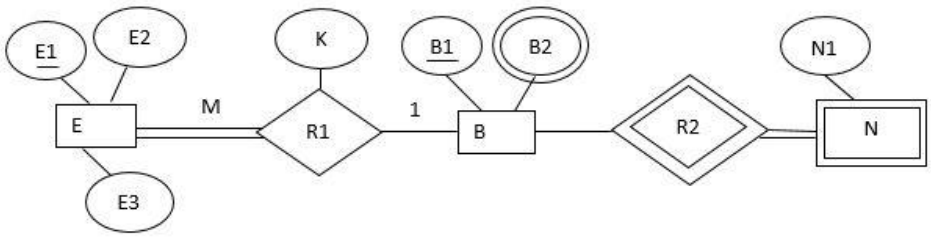
Q3. Explain about 3 level architecture of DBMS.

Q4. What do you mean by Specialization, Generalization and Aggregation in Extended ER Model?

Q5. What is WEAK Entity and Identifying Relation, Explain with a suitable example?

Q6. What do you mean by participation constraint and cardinality ratio of a relationship?

Q7. How many no. of Relation is required to convert the following E-R diagram to Relational model? And convert the given ER-diagram into Relation.



Q8. What are different types of constraints can be applied on a relation schema? Explain.

Q9. Consider the following Relation Schema R with candidate key. What will be the maximum and minimum no. of Super Key can be possible.

a) R (A_1, A_2, A_3 ….. A_n) and Candidate Key : {A_1, A_2A_3}
b) R (A_1, A_2, A_3 ….. A_n) and Candidate Key : {A_1, A_2 , A_3}
c) R (A_1, A_2, A_3 ….. A_n) and Candidate Key : {A_1A_2 , A_3}

Q10. Discuss about Entity integrity constraint and Referential integrity constraints.

Q11. How super key, candidate key and primary key are different from each other, explain with example?

Q12. Consider the Relation Schema R (A, B, C, D) the Functional dependency (F) defined over relation R is F: {A -> B, C -> D}. The Relation R is decompose into two Relation R_1(A, B) and R_2(C, D). Are decomposed relation

(i) Loss-less decomposition but not Dependency Preserving
(ii) Both loss-less and dependency preserving
(iii) Lossy but Dependency Preserving
(iv) Neither loss-less nor Dependency Preserving

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Q13. Consider the following Relation instance and find all the possible Non trivial functional dependency.

A	B	C
1	1	1
1	1	0
2	3	4
2	3	2

Q14. Consider the given Relation R(A, B, C, D, E) and the functional dependency defined over relation R is F: {A -> BC, CD -> E, E -> A, B -> A} , find the candidate key for Relation R.

Q15. In the given Relation Schema "Book".
BooK(Book_no, Book_name, Author, Year_publication, price)

The functional dependency (F) on the Relation "Book" are
F: {Book_no -> Book_name, Book_no -> Author, {Author,Year_publication} -> price,
Book_name -> Year_publication, price -> Book_no}

Which of the following functional dependency NOT implied by the above functional dependency set F?

i. {Author,Year_publication} -> {Book_no, Author}
ii. {Book_name, Year_publication} -> {Author, Year_publication}
iii. {Book_name, Author} -> {Author, Year_publication}
iv. {Book_no, Author} -> {Book_name, Author}

Q16. Consider a Relation Schema with some functional dependency of your own choice and find its minimal cover.

N: B- **All the questions in 1st internal examination will be from this assignment only. However, the order and no. of questions in internal exam may vary. So, I expect you all will prepare well.**

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