**1<sup>st</sup> DATA BASE ENGINEERING ASSIGNMENTS FOR 5<sup>th</sup> Semester, CSE 2022-2023**

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. Differentiate relation schema and instance?

Q8. What do you mean by NULL values in a relation, explain with suitable example?

Q9. Explain DDL, DML and DCL?

Q10. Assume that, given E-R diagram is a one-many relationships.

    i.        Find the Degree of the relationships, Participation constraint and Cardinality ratio.

    ii.       Convert the E-R diagram into relational model.
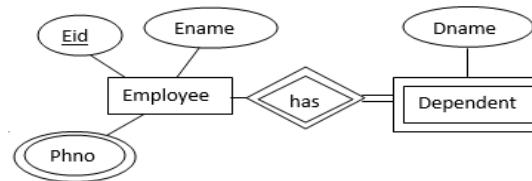


Q11. What are the different types of constraints can be applied on a relation schema? Explain.

Q12. Discuss about Entity integrity constraint and Referential integrity constraints.

Q13. How super key, candidate key and primary key are different from each other, explain with example?

Q14. Discuss about various types of attributes in ER model?

Q15. Explain about all kind of relationship in ER model?

Q16. Assume the following relation schema R.

  R ($K_1$, $K_2$, $K_3$, …. ,$K_n$) with each attributes has their corresponding domain ($d_1$, $d_2$, $d_3$, …., $d_n$ ) respectively. How many maximum numbers of tuples can be formed for the relation R?

Q 17. Consider the following Relation Schema and set of Functional Dependency R {A, B, C, D, E, F, G, H, I, J}

      FD: {AB ->C}, {A ->DE}, {B -> F}, {F -> GH}, {D -> IJ}

      What are the Candidate Keys for relation R?

Q 18. Consider a relation schema R(ABCDE) with functional dependency set F: (A -> BC, D-> E, C-> DE).

      The Relation R is decomposed into two relations R1(ABCD) and R2(DE). Check whether the decomposition is Loss-Less decomposition and functional dependency preserving or not?

Q 19. Find the minimal cover for the relation schema R (K, L, M, N) with functional dependency set.

      F: { L -> K, NK -> ML, M -> NLK}.

Q 20. Consider a relation schema T1(P, Q, R, S, T). The primary key for this relation T1 is {P, S}. Which of the following option false.

    i.        {PQRST} is a super key

    ii.       {PRTS} is a super Key

    iii.      {SQRT} is a super Key

    iv.      {SQRP} is a super key

N: B- **All the questions in 1<sup>st</sup> internal examination will be from this assignment only. However, the order and no. of questions in internal exam may vary.**

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