

11. Match the following:

List – I

- P. A database schema is
- Q. A datamodel is
- R. A database instance is

List – II

- 1. The collection of data stored.
- 2. A set of concepts used to describe database
- 3. A description of database using a specific data model.

Codes:

- | | |
|-------------------|-------------------|
| (a) P-3, Q-1, R-2 | (b) P-1, Q-3, R-2 |
| (c) P-3, Q-2, R-1 | (d) P-2, Q-3, R-1 |

- (c) 1. List - 1
- P. A Database schema is 1. the collection of data stored
- Q). A datamodel is 2. A set of concepts used to describe database
- R). A database instance is 3. A description of database using a specific datamodel

SQL -

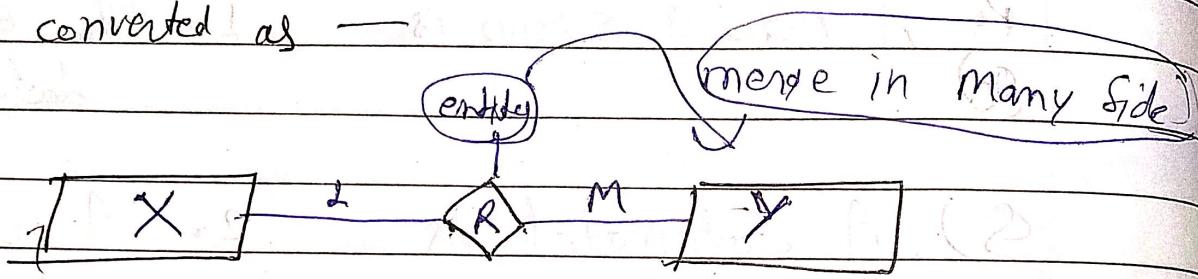
- (a) P → 3
 Q → 2

Schema → Description of database
 data model → set of concepts used to describe database
 database instance → Collection of data stored.

12. One to many relationship between X (one side) and Y (many side) entities in ER diagram is converted as

- (a) Modify X side to include foreign key of Y side as primary key
- (b) Modify Y side to include primary key of X side as foreign key
- (c) Modify Y side to include foreign key of Y side as primary key
- (d) Modify X side to include primary key of Y side as foreign key

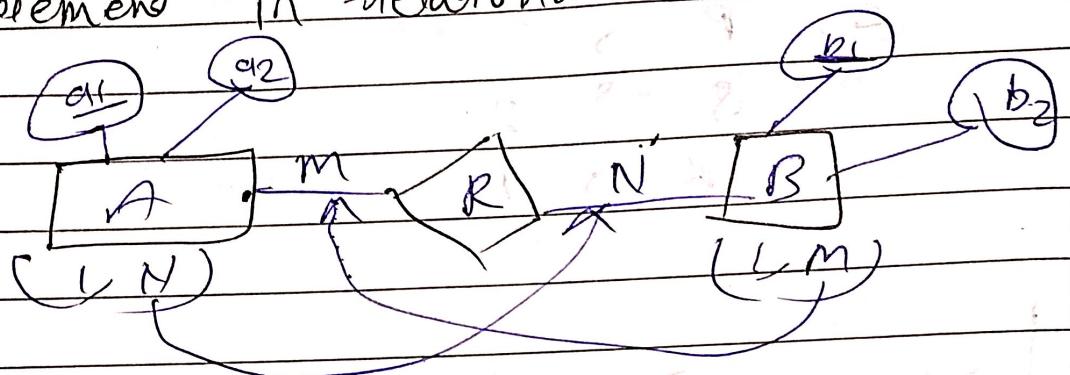
(b) 19) One to many relationship b/w X (one side) & Y (many side) entities in ER diagram is converted as —



(b) Modify Y side to include primary key of X side as foreign key.

13. All M-N relationships in E-R model are implemented in relational model as
- (a) Relation corresponding to M side is modified to include Foreign key of the relation on the 'N' side
 - (b) Relation corresponding to 'N' side is modified to include Foreign key of the relation on the 'M' side
 - (c) Separate relation is created and primary keys of both M and N are included in the new relation as Foreign keys
 - (d) Separate relation is created and Foreign keys of both M and N are included in the new relation as Primary keys

~~(c)~~ 13. All M-N-relationship in ER model can be implemented in relational model as →



~~(c)~~ Separate relation is created and P-K of both M & N are included in the new relation as fork

14. Construct an E – R model for the below assumption and find out the degree of the relationship.

A technician uses exactly one notebook for each project.

Each notebook belongs to one technician for each project.

Note that a technician may still work on many projects and maintain different notebooks for different projects.

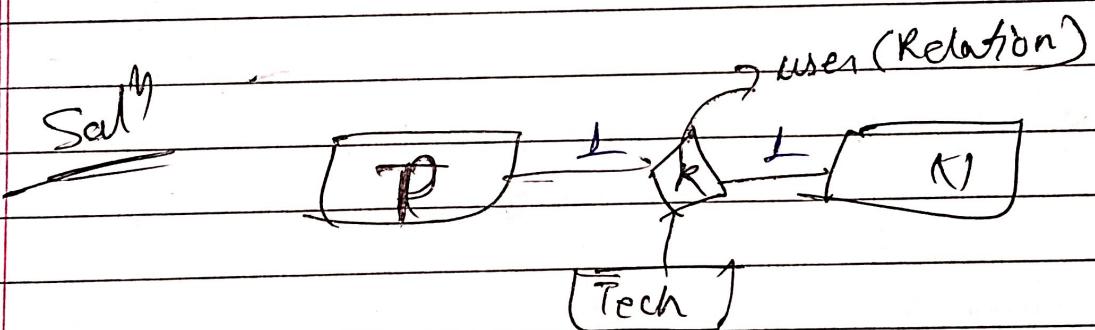
- (a) Unary
- (b) Binary
- (c) Ternary
- (d) Two binary relations

① Construct an ER model for the below assumption & find degree of relationships

A technician uses exactly one notebook for each project.

Each notebook belongs to one technician for each project.

Note → technician may still work on many projects.



② Ternary

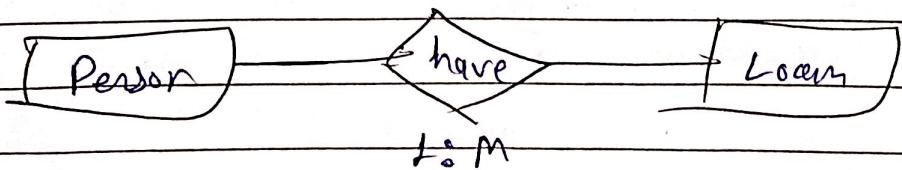
15. Convert the following alternatives to E – R model and from E – R model convert them to relational model. Then which of the following alternatives will have only two relations in the relational model.

- (a) A customer have many accounts and an account can be owned by one customer or more
- (b) A supplier supplies many parts and a part can be supplied by many supplies.
- (c) A person can have many loans and a loan is owned by only one person
- (d) A department can have many employees and an employee can work in more than one department.

C) List convert the following alternatives to E-R model as from E-R model convert them to relational model. Then which alternatives will have only two relations in relational models.

Sol M

- A) A customer has many accounts and an account can be owned by one customer or more.
- B) A supplier supplies many parts and a part can be supplied by many suppliers.
- C) A person can have many loans & a loan is owned by only one person.
- D) A department can have many employees and an employee can work in more than one department.



two relations :- Person ~~to~~ (Loan, have)

16. Descriptive attributes are used to

- (a) Record information about participating entities
- (b) Record information about relationships
- (c) Record information about data
- (d) Record information about aggregation

- ⑥ Q6 Descriptive attributes are used to -
- (b) Record information about relationships.

17. A minimum cardinality of zero specifies
- (a) No participation
 - (b) Partial participation
 - (c) Total participation
 - (d) Zero participation

- ⑥ 17 A minimum C.R of zero specifies
⑦ Partial participation

18. Each Employee job can be either a secretary or a technician or an engineer.

Which of the following specialization is suitable based on Job?

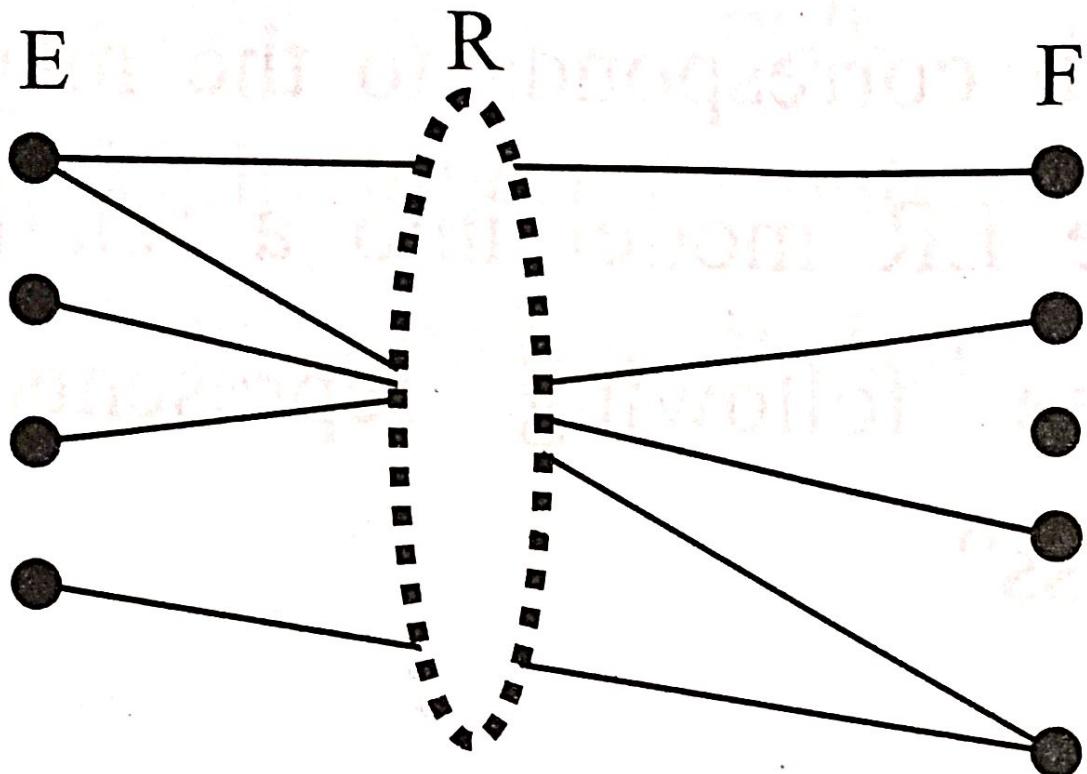
- (a) Disjoint, partial specialization
- (b) Overlapping, partial specialization
- (c) Overlapping, total specialization
- (d) Disjoint, total specialization

Q) 18) Each employee job can be either a secretary or a technician or an engineer which of the specialization is suitable based on job?

- A) Disjoint, partial specialization
- B) Overlapping, partial specialization
- C) Overlapping, total specialization
- D) Disjoint, total specialization.

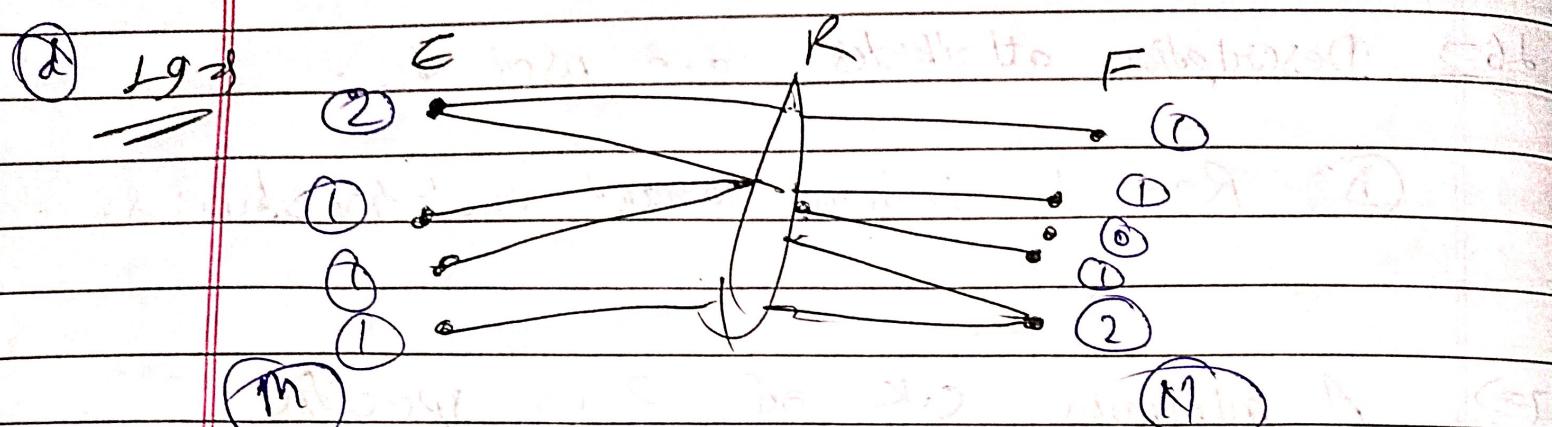
No overlapping contain because no employee can both be secretary or technician or an engineer & all these category collectively includes employee.

19.



Find the cardinality of R

- (a) 1:1
- (b) 1 : m
- (c) m : 1
- (d) m : n



Cardinality of R

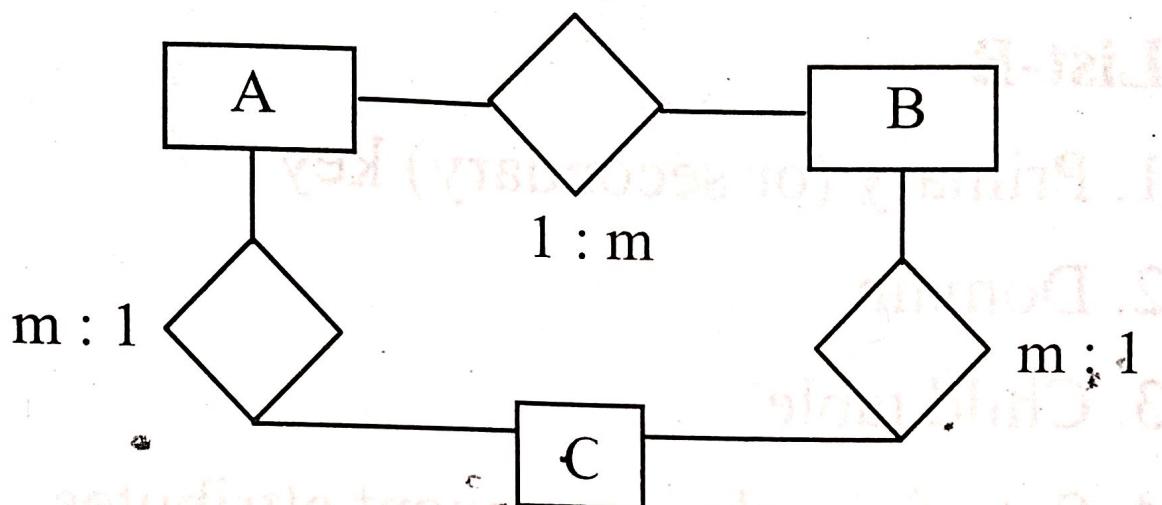
Sal^M Many \rightarrow Many

E cardinality \rightarrow 2 (M)

F Cardinality \rightarrow 2 (N)

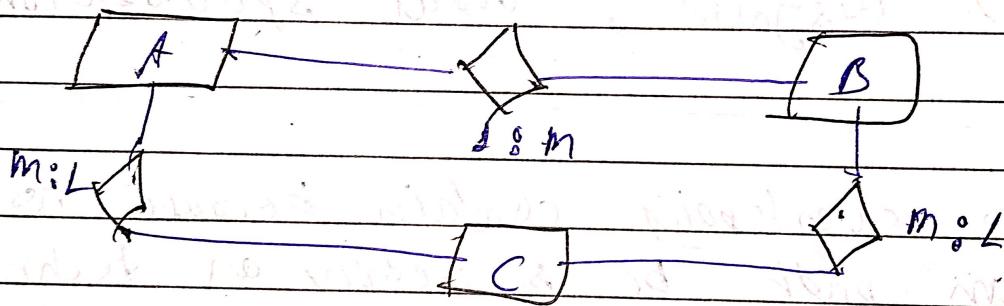
(e) So $\boxed{R \text{ cardinality} \geq \min}$

20. Which one of the following statements cannot be made about the following ER diagram?



- (a) On conversion, we get maximum 6 tables from this ER diagram.
- (b) On conversion, we get minimum 3 tables from this ER diagram.
- (c) Table A may have primary key of the Table C as primary key.
- (d) None

(d) 20. Which one of the statements can not be made about the following ER diagram?



- (A) On conversion, we get maximum 6 table
- (B) minimum 3 table
- (C) Table A may have PK of Table C as part of its primary key
- (D) None

All True.

Teacher's Signature