

## CS &amp; DA

## Database Management System

DPP: 1

## Entity Relationship model &amp; Integrity Constraints

**Q1** ER model is

- (A) Physical design
- (B) Logical design
- (C) Conceptual design
- (D) None of the above

**Q2** Consider the following tables T1 and T2.

T1

P	Q
2	2
3	8
7	3
5	8
6	9
8	5
9	8

T2

R	S
2	2
8	3
3	2
9	7
5	7
7	2

In table T1 **P** is the primary key and **Q** is the foreign key referencing **R** in table T2 with on-delete cascade and on-update cascade. In table T2, **R** is the primary key and **S** is the foreign key referencing **P** in table T1 with on-delete set NULL and on-update cascade. In order to delete record (3,8) from the table T1, the number of additional records that need to be deleted from table T1 is \_\_\_\_\_.

**Q3** Consider a relational table R(A, B) as given below. A is the primary key of relation R and B is the foreign key referring to primary key A of relation

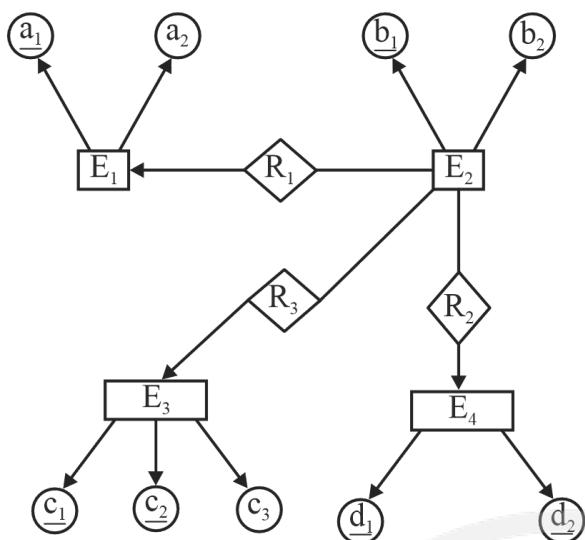
R with on delete cascade. If we delete tuple (2, 3) from relation R, then total number of tuples (including (2, 3)) deleted from R to preserve referential integrity is \_\_\_\_\_.

A	B
5	8
3	2
8	7
1	4
2	3
6	3
7	9
9	5
4	3

**Q4** Which of the following is/are true for an ER model?

- (A) Weak entity must have total participation in identifying relation.
- (B) Entity corresponding to 1 side will include foreign key referring to the primary key of many side entity.
- (C) Descriptive attributes are associated with entity.
- (D) Minimum cardinality of '1' specifies total participation.

**Q5** Minimum number of tables required to convert the ER diagram into relational model is \_\_\_\_\_.
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## Answer Key

Q1 (C)

Q2 0~0

Q3 5~5

Q4 (A, D)

Q5 3~3

## Hints & Solutions

### Q1 Text Solution:

ER model is a high level data model diagram which defines the conceptual view of the database.

### Q2 Text Solution:

As Q refers to R so, deleting 8 from Q won't be an issue, however S refers P. But as the relationship given is on delete set NULL, 3 will be deleted from T1 and the entry in T2 having 3 in

column S will be set to NULL. So, no more deletions. Answer is 0.

### Q3 Text Solution:

(2, 3), (3, 2), (1, 4), (6, 3), and (4, 3) will be deleted.

### Q4 Text Solution:

Option A and D are correct.

### Q5 Text Solution:

$E_4$  will be completely included in  $E_2$ , because all attributes of  $E_4$  together form key.



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