Computer Science & Information Technology
Database Management System
Entity Relationship model & Integrity Constraints

DPP: 1

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

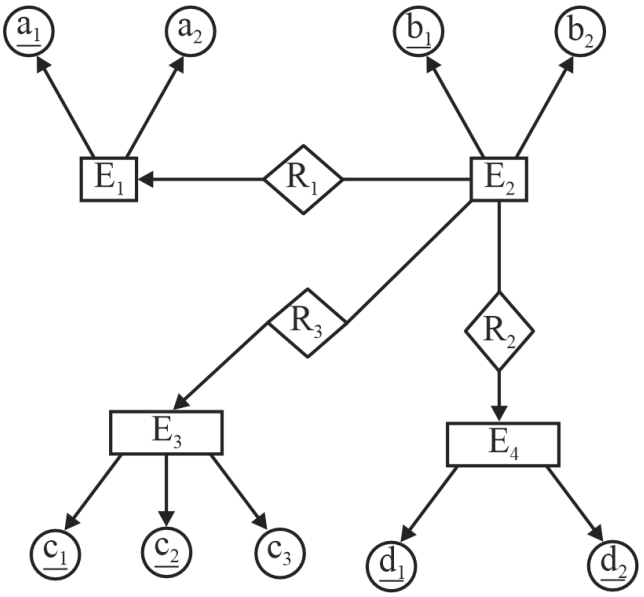
In table T1 **P** is the primary key and **Q** is the foreign key referencing **R** in table T2 with on-delete cascade and on-update cascade. In table T2, **R** is the primary key and **S** is the foreign key referencing **P** in table T1 with on-delete set NULL and on-update cascade. In order to delete 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___


a1
a2
b1
b2
E1
R1
E2
R3
R2
E3
E4
c1
c2
c3
d1
d2

Answer Key

Q1	C
Q2	0
Q3	5
Q4	A,D
Q5	3

Hints & Solutions

Note: scan the QR code to watch video solution

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.