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State	Finished
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Time taken	19 mins 58 secs
Marks	18.00/20.00
Grade	9.00 out of 10.00 (90%)

Question 1

Complete

Mark 2.00 out of 2.00

Relation R has eight attributes ABCDEFGH. Fields of R contain only atomic values. F = {CH -> G, A -> BC, B -> CFH, E -> A, F -> EG} is a set of functional dependencies (FDs) so that F+ is exactly the set of FDs that hold for R. How many candidate keys does the relation R have?

- A. 3
- B. 6
- C. 4
- D. 5

The correct answer is: 4

Question 2

Complete

Mark 2.00 out of 2.00

The relation scheme Student Performance (name, courseNo, rollNo, grade) has the following functional dependencies:

name, courseNo → grade

rollNo, courseNo → grade

name → rollNo

rollNo → name

The highest normal form of this relation scheme is

- A. BCNF
- B. 3 NF
- C. 4 NF
- D. 2 NF

The correct answer is: 3 NF

Question 3

Complete

Mark 2.00 out of 2.00

In RDBMS, different classes of relations are created using _____ technique to prevent modification anomalies.

- A. Data integrity
- B. Referential integrity
- C. Normal Forms
- D. Functional Dependencies

The correct answer is: Normal Forms

Question 4

Complete

Mark 2.00 out of 2.00

BCNF is not used for cases where a relation has

- A. Two (or more) candidate keys
- B. Two mutually exclusive foreign keys
- C. The candidate key overlap
- D. Two candidate keys and composite

The correct answer is: Two mutually exclusive foreign keys

Question 5

Complete

Mark 2.00 out of 2.00

Let R = ABCDE is a relational scheme with functional dependency set F = {A → B, B → C, AC → D}. The attribute closures of A and E are

- A. ABCD, E
- B. ABC, E
- C. ABCD, Φ
- D. Φ, Φ

The correct answer is: ABCD, E

Question 6

Complete

Mark 0.00 out of 2.00

Consider the relation R (ABCDE): FD = { A → B, B → C, C → D, D → E} Find out the highest normal form.

- A. 2 NF
- B. 1 NF
- C. 3 NF
- D. BCNF

The correct answer is: 2 NF

Question 7

Complete

Mark 2.00 out of 2.00

Which of the following is TRUE?

- A. Every relation in 3NF is also in BCNF
- B. Every relation in BCNF is also in 3NF
- C. No relation can be in both BCNF and 3NF
- D. A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R

The correct answer is: Every relation in BCNF is also in 3NF

Question 8

Complete

Mark 2.00 out of 2.00

The maximum number of superkeys for the relation schema R(E,F,G,H) with E as the key is

- A. 5
- B. 8
- C. 7
- D. 6

The correct answer is: 8

Question 9

Complete

Mark 2.00 out of 2.00

Consider a relational table R that is in 3NF, but not in BCNF. Which one of the following statements is TRUE ?

- A. A cell in R holds a set instead of an atomic value
- B. R has a nontrivial functional dependency X→A, where X is not a superkey and A is a prime attribute
- C. R has a nontrivial functional dependency X→A, where X is not a superkey and A is a non-prime attribute and X is a proper subset of some key
- D. R has a nontrivial functional dependency X→A, where X is not a superkey and A is a non-prime attribute and X is not a proper subset of any key

The correct answer is: R has a nontrivial functional dependency X→A, where X is not a superkey and A is a prime attribute

Question 10

Complete

Mark 2.00 out of 2.00

Let R (A, B, C, D, E, P, G) be a relational schema in which the following functional dependencies are known to hold: AB → CD, DE → P, C → E, P → C and B → G. The relational schema R is

- A. not in 2NF
- B. in BCNF
- C. in 3NF, but not in BCNF
- D. in 2NF, but not in 3NF

The correct answer is: not in 2NF