

1. A relation is in if an attribute of a composite key is dependent on an attribute of other composite key.
 - A) 2NF
 - B) 3NF
 - C) BCNF
 - D) 1NF

2. Fifth Normal form is concerned with
 - A) Functional dependency
 - B) Multivalued dependency
 - C) Join dependency
 - D) Domain key

3. A table is in theif only candidate keys are the determinants.
 - A) functional dependency
 - B) transitive dependency
 - C) 4 NF
 - D) BCNF

4. Theis related to the concept of multi-valued dependency.
 - A) fourth normal form
 - B) fifth normal form
 - C) boycecodd normal form
 - D) third normal form

5. Which normal form is considered adequate for normal relational database design?
- A) 2NF
 - B) 5NF
 - C) 4NF
 - D) 3NF
6. Consider the relation scheme $R = \{E, F, G, H, I, J, K, L, M, N\}$ and the set of functional dependencies $\{\{E, F\} \rightarrow \{G\}, \{F\} \rightarrow \{I, J\}, \{E, H\} \rightarrow \{K, L\}, K \rightarrow \{M\}, L \rightarrow \{N\}\}$ on R . What is the key for relation R ?
- (A) $\{E, F, H, K, L\}$
 - (B) $\{E, F, H\}$
 - (C) $\{E, F\}$
 - (D) $\{E\}$
7. In a schema with attributes A, B, C, D and E following set of functional dependencies are given $\{A \rightarrow B, A \rightarrow C, CD \rightarrow E, B \rightarrow D, E \rightarrow A\}$. Which of the following functional dependencies is NOT implied by the above set?
- (A) $CD \rightarrow AC$
 - (B) $BC \rightarrow CD$
 - (C) $BD \rightarrow CD$
 - (D) $AC \rightarrow BC$
8. If there is more than one key for relation schema in DBMS then each key in relation schema is classified as
- (a) Prime key
 - (b) Super key
 - (c) Candidate key
 - (d) Primary key
9. The form of dependency in which the set of attributes that are neither a subset of any of the keys nor the candidate key is classified as
- (a) Transitive dependency
 - (b) Full functional dependency
 - (c) Partial dependency
 - (d) Prime functional dependency
10. In the reflexive rule, the true dependencies generated are classified as
- (a) Trivial
 - (b) Non trivial
 - (c) Inferential
 - (d) Functional

11. The rules which states that addition of same attributes to the right side and left side will results in other valid dependency is classified as

- (A) Referential rule
- (B) Inferential rule
- (C) Augmentation rule
- (D) Reflexive rule

12. The functional dependency of two sets E and F are considered as equivalent if

- (A) $E \rightarrow F = E \rightarrow F$
- (B) $E^* = F^2$
- (C) $E^2 = F^2$
- (D) $E^+ = F^+$

13. If attribute A determines both attributes B and C, then it is also true that:

- (A) $A \rightarrow B$
- (B) $B \rightarrow A$
- (C) $C \rightarrow A$
- (D) $(B, C) \rightarrow A$

14. A BCNF is :

- (A) loss less join and dependency preserving
- (B) loss less join but not dependency preserving
- (C) not loss less join but dependency preserving
- (D) none of these

15. The relation schema Student_Performance (name, courseNo, rollNo, grade) has the following FDs:

name, courseNo \rightarrow grade
rollNo, courseNo \rightarrow grade
name \rightarrow rollNo
rollNo \rightarrow name

The highest normal form of this relation scheme is

- (A) 2NF
- (B) 3NF
- (C) BCNF
- (D) 4NF

Q2 Explain types of functional dependency and dependency preservation in detail. (4)

Q3 Describe database anomalies with examples. (4)

Q4 Comparison between various Normal forms 1NF,2NF ,3NF AND BCNF with example
(4)

Q5 What do you mean by Multi valued functional dependencies and join dependencies
(3)