

(iii) Drop

(iv) Select

7. (a) How is normalization useful for a good database design? Explain first, second and third normal forms with suitable example.
- (b) Explain multi valued functional dependency and join dependency with the help of example.

Unit-IV

8. (a) Define and give an example of transaction. Briefly discuss the ACID properties of transaction.
- (b) Explain the concept of serial, non-serial and serializable schedules. State the rules of equivalence of schedules.
9. (a) Define lock. What are two modes of locking? Explain with the help of example.
- (b) Explain the concept of two-phase locking with the help of example. How is it related to serializability? Describe the role of two phase locking in the process of deadlock detection and avoidance.

Roll No.

67074

M.C.A. 2nd Sem.

(with new notes - M.M. 80

w.e.f. May, 2013)

Examination-May, 2016

Database Management Systems (New)

Paper-MCA-204

Time : 3 hours

Max. Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt five questions in all. Question No. 1 is compulsory and attempt four more questions by selecting one question from each unit. All questions carry equal marks.

1. Answer the following questions :

- (a) Define the term database.
- (b) What do you mean by data redundancy?

- (c) What are the various states of the database ?
- (d) What do you mean by domain integrity ?
- (e) Explain the concept of null values in SQL.
- (f) What is the purpose of view in SQL ?
- (g) Define insertion anomaly ?
- (h) What is timestamp ordering ?

Unit-I

- 2. (a) Explain the term data independence and data abstraction. How three schema architecture helps to ensure data independence.
- (b) What does defining, manipulating, sharing and protecting of a database mean? Explain with the help of example.
- 3. (a) What do you mean by data model ? Explain hierarchical and network data models with their merits and demerits.
- (b) Describe the role and responsibilities of DBA in the database management system.

Unit-II

- 4. (a) Discuss AC characteristics of a relation that make them different from ordinary tables and files.
- (b) Define key, candidate key, alternate key and foreign key. What is the difference between primary key constraint and unique constraint ?
- 5. (a) What are the similarities and differences between relational algebra and relational calculus ? Explain with the help of example.
- (b) What are the components of tuple relational calculus? Discuss expression and formula in tuple relational calculus.

Unit-III

- 6. (a) What is SQL? What are the various data types supported by standard SQL?
- (b) Explain the following command with the help of example :
 - (i) Create
 - (ii) Alter