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**Bachelor of Science (Information technology)**  
**Annual Examination – 2006**

**Paper BITD – 301**  
**Relational Database Management System**

Time allowed: Three hours

Maximum Marks: 100

**SECTION – I**

20X1=20

- i) What is database?
- ii) What is record?
- iii) Define field.
- iv) Define DDL.
- v) Invalid data can be prevent from being entered, by including integrity constraints. ( True / False)
- vi) By default all columns in a database will allow nulls. (True / False)
- vii) A table can have only one Primary Key. ( True / False)
- viii) Unique Key Constraint can allow Null Values.(True / False)
- ix) Composite keys can contain a maximum of 16 columns. (True / False)
- x) To avoid duplicate rows we use the \_\_\_\_\_ key constraint.
- xi) \_\_\_\_\_ syntax is used to drop integrity constraints.
- xii) A parent table's \_\_\_\_\_ key is refereed by its child table's key.
- xiii) Reference key is the unique or the Primary defined on a \_\_\_\_\_ table.
- xiv) On delete – cascade ensures that a deleted record in the present table is not present in the \_\_\_\_\_ table. .
- xv) What is union compatible?
- xvi) Define first normal form?
- xvii) We can roll back after committing the change in SQL. (True/False)
- xviii) Commit indicates the end of a transaction(True/false)
- xix) Commit resources all save points in the \_\_\_\_\_.
- xx) What is a time stamp?

**SECTION –II**

Attempt any Six questions:

5X6=30

- i) What are the main functions of a database administrator?
- ii) What do you mean by Data model? What are its type? Explain
- iii) Describe the limitation that necessitated the design of different data model.
- iv) Compare and contrast between data models.
- v) What are the various type of the update operations on relations?
- vi) Define the following terms
  - a) Invention of a set
  - b) Extension of a set
- vii) What are Armstrong's inference rules?

- viii) What do you understand DDL? Make a list of commands used in DDL.

### SECTION –III

Attempt any FIVE questions (300-400 words):

5X10=50

- i) Describe the architecture of a Database Management System.
- ii) Discuss the advantage and disadvantages of different data modeling techniques.
- iii) Discuss the various types of the update operations on relations.
- iv) What is functional dependency? Who speaks the functional dependences that hold among the attributes of a relation schema?
- v) Define Boycecodd normal form. How does it differ from 3NF? Why is it considered a stronger form of 3NF?
- vi) What do you understand by DML? What are the use of insert, delete and update commands? Why do we use select command?
- vii) What is meant by the concurrent execution of database transactions in a multiuser system? Discuss why concurrency control is needed and give informal examples.