USME, DTU East Delhi Campus

FIRST SEMESTER **MBA (Business Analytics)**

END SEMESTER EXAMINATION ***Nov/Dec-2019***

Paper Code:MB108 Title of Paper-Database Management Systems

Time: 3:00 Hours *Max. Marks : 60*

Note: Marks are indicated against each question. Parts of a question must be answered together.

Q1. Attempt any ***five*** questions out of the following: **[5* 6marks = 30marks]**

a) Explain the three different types of data anomalies with examples.

b) Describe the entity and referential integrity constraints with suitable examples.

c) What is collision resolution? Explain any two methods to address it.

d) What is a transaction? What are its ACID properties?

e) Differentiate between the following:

(i) Logical data independence and physical data independence

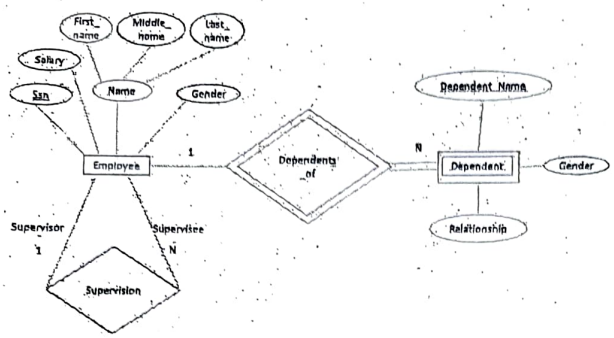
(ii) Intension and Extension

(iii) *where* clause and *having* clause

f) What are the various types of cardinality in databases? Explain with examples.

Q2. Attempt any ***two*** questions out of the following: **[2* 8 marks= 16 Marks]**

a) For the following ER diagram, identify the types of entities, attributes and the types of relationships involved. Perform ER-to-Relational mapping and construct the schema diagram for the same. Specify the primary keys and foreign keys for this schema.



b) What is normalization? Explain the different types of functional dependencies with examples.

c) Describe the various components in the structure of DBMS with the help of an appropriate diagram.

Q3. Write the SQL statements for the following queries: **[14 Marks]**

a) Create a database having two tables with the specified fields, to computerize a library system of a college.

LibraryBooks(Accession number, Title, Author, Department, PurchaseDate, Price)

IssuedBooks(Accession number, Borrower)

b) List all computer books (Department = "CS") that have been issued.

c) List all books which have the word "Database" in their title.

d) List the number of books in each department having price greater than or equal to Rs. 2000.

e) Delete the record of book titled "Marketing Management".

f) Change the department of the book titled "Machine Learning" to "CS".

g) List all books that belong to "CS" department and are written by author "Navathe".

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