



Starting Time: 10:00 AM

No. of pages: 2 pages.

**Please answer the following 4 questions briefly. The answer to each question must not exceed 1 page.**

### **Question # 1**

a) Define each of the following:

- Relational Database
- System Catalogue

b) What is the difference between Data and Meta Data

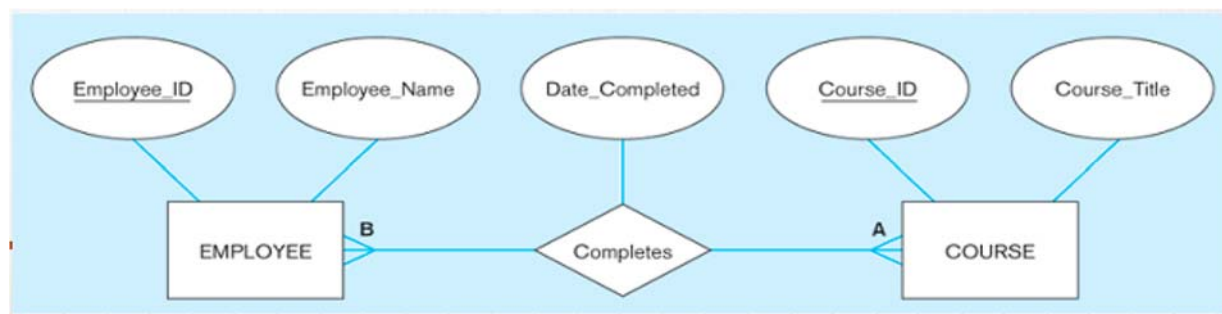
### **Question # 2**

a) in the Database relation, define each of the following:

- The Cardinality
- The degree
- The Domain

b) What are the main functions of the DBMS

**Question # 3: See the following ERD and answer the following questions:**



a) How many tables will be created from this ERD?

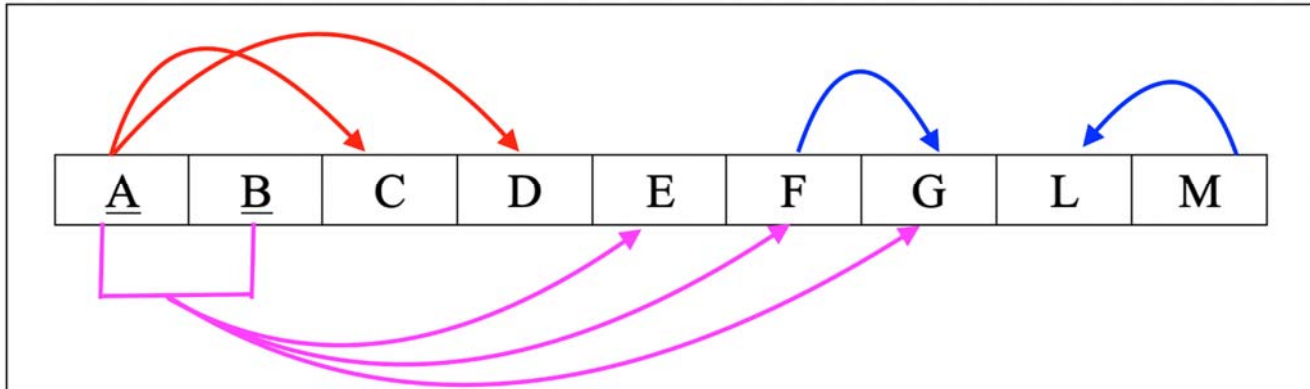
b) Draw all tables please (just empty tables without data)

c) What is the cardinality of the COMPLETES relationship

d) What is the Degree of the COMPLETES relationship

**Question # 4:**

From the following Figure, what is the result of applying First Normal Form (1NF)?



$A, B \rightarrow E$   
 $A, B \rightarrow F$   
 $A, B \rightarrow G$

$A \rightarrow C$   
 $A \rightarrow D$   
 $F \rightarrow G$   
 $M \rightarrow L$

**Good Luck**

Dr. Mohamed Elhoseny