Damietta University Faculty of Computers and Artificial Intelligence No. of pages: 2 pages	Final Exam Model 1	Academic Year: 2021/2022 Course Name: Database Systems (IS 221) Level 02 Time Allowed: 2 hours Sep. 8, 2022

WRITE YOUR MODEL NUMBER IN YOUR ANSWER SHEET

Answer the following questions:

Question 1: Compete the following statements: (20 Marks)

1. In the ER model; the …(1)…., relationship, and attribute are the basic concepts. entity
2. …. (2) … is a complete description of the database structure stored in the catalog. metadata
3. …. (3) … represents a value for an attribute that is currently unknown or is not applicable for this tuple. NULL
4. The …. (4) …. is responsible for data resources management; he plans, organizes, and controls data resources, while …. (5) …. identifies the entities, attributes, and the relationships between the data, that is to be stored in the database. 4. data administrator 5. logical database designer
5. The same data may be stored in multiple files; this causes the data …. (6) … problem redundancy
6. In relational database the PK must has two properties … (7)….., ……. (8) ……. uniqueness, irreducibilty
7. In the relational model; … (9) ……. schemas correspond to different views of the data. external
8. In the ERD the ovals represent …… (10) …., while rectangles represent … (11) …. attribute entities
9. The …. (12) …. of a relation is the number of tuples it contains, while …. (13) …. of a relation is the number of attributes it contains. cardinality degree
10. In SQL; the ORDER BY clause is used to order the ……(14)…. of the resulted table. tuples

11. SQL has many aggregate functions such as ……(15)……, …(16)……. ,…….(17)……

MIN MAX AVG

12. DDL includes …. (18) …. and …. (19) …. SQL statements.

CREATE DROP

13. The … (20) …clause in SQL is used to combine rows from two or more tables based on a related column between them.

JOIN

Question 2: State true or false and correct the wrong statement (10 Marks):

1. The attributes in FK may have values other than the domain(s) of the primary key attributes PK

not

2. Aggregate functions can be used only in the SELECT and the ~~DELETE~~ clause.

HAVING

3. A domain can be defined as the set of allowable values for one or more ~~tuples~~.

Attributes

4. The HAVING clause Acts like a WHERE clause but is used for ~~columns~~ rather than groups.

tuples

5. leaf node is a class that ~~can have only one~~ subclasses of its own.

Doesn't Have any

6. ~~Foreign~~ key is the candidate key that is selected to identify tuples in a relation.

primary

7. To remove duplicate rows from the results of SQL SELECT statement; ~~UNIQUE~~ clause must be included.

Distinct

8. In the relational model; any relation can have many Primary keys Depends on DBA.
9. Specialization is the process of maximizing the differences between members of an entity by identifying their distinguishing characteristics.
10. Backup and recovery services are improved using the database approach.

Question 3: answer the following questions: (20 Marks):

1. What are the relationship degrees between any two entities in the relational model? Discuss with examples.
2. What is the difference between entity integrity and referential integrity constraints?

3. What is the difference between Subclass and superclass entities in the relational model?
4. List and explain three functions of the DBMS

End of Exam **Model 1**

Best wishes. ***Dr. Amira El-Zeiny***