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| **Benha University** |  | **Faculty of Computers & Informatics** |
| **2nd Term (May 2019) MidTerm Exam**  **Class: 3rd** Year Students  **Subject: Database Management Systems**  **Course Code: DBA 372** |  | **Date**: 10/4/2019  **Time:** 1 Hour  **Examiner(s):** Dr. Walaa Medhat |

**Answer the following questions:**

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| **Question No. 1 Choose one of the following answers [5 Marks]** |

1. Which is NOT a component of a relational database?
2. Entity
3. Table
4. Attribute
5. **Hierarchy**
6. A(n) \_\_\_\_ defines the logical view of the data
7. physical schema
8. user view
9. external schema
10. **conceptual schema**
11. Which is not a disadvantage of traditional file processing systems?
12. Program-data dependence
13. **Reduced data redundancy**
14. Limited data sharing
15. Lengthy development time
16. The \_\_\_\_ guarantees that every primary key attribute is not null.
17. **entity integrity rule**
18. **referential integrity constraint**
19. action assertion
20. composite attribute
21. SQL commands can be classified into three types. Which is NOT an SQL command type?
22. DDL
23. DML
24. **DGL**
25. DCL
26. Different copies of the same data will have different values is a definition of
27. Data redundancy
28. Data independence
29. **Data inconsistency**
30. Centralizing the data
31. When the data representation changes, it is not necessary to change the application program, is the feature of
32. **Data independence**
33. Data inconsistency
34. Centralizing the data
35. Data redundancy
36. Which of the following is NOT a level of database abstraction
37. Physical level
38. Logical level
39. Conceptual level
40. **View level**
41. Which is NOT a type of integrity constraints?
42. Static
43. Syntactic
44. Semantic
45. Dynamic
46. **Active**
47. A \_\_\_\_ description of data at some level
48. **schema**
49. model
50. view

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| **Question No. 2 [15 Marks]** |

The following relations keep track of airline flight information:

Flights(flno, from, to, distance, departs, arrives, price)

Aircraft(aid, aname, cruisingrange)

Certified(eid, aid)

Employees(eid, ename, salary)

Note that the Employees relation describes pilots and other kinds of employees as well; every pilot is certified for some aircraft, and only pilots are certified to fly.

1. Draw the referential diagram (3 Marks)
2. Use SQL to write the following queries (12 Marks):
3. **For each pilot who is certified for more than three aircraft, find the *eid* and the maximum *cruisingrange* of the aircraft for which she or he is certified.**

SELECT C.eid, MAX (A.cruisingrange)

FROM Certified C, Aircraft A

WHERE C.aid = A.aid

GROUP BY C.eid

HAVING COUNT (\*) *>* 3;

1. **Find the names of pilots certified for some Boeing aircraft.**

SELECT DISTINCT E.ename

FROM Employees E, Certified C, Aircraft A

WHERE E.eid = C.eid AND C.aid = A.aid AND A.aname = ‘Boeing%’;

1. **Insert into employee a new employee with id = 520 and his name is “John Smith”.**

Insert into Employees (eid, ename, salary)

Values (‘520’, ‘John Smith’, Default);

1. **Delete from aircraft all the planes that has no pilots certified to them.**

Delete

From aircraft

Where Not Exists

(select \*

From Certified

Where Certified.aid = aircraft.aid);

**GOOD LUCK**