Databases Exam 1

Practice

Name (print clearly): **ANSWER KEY** Section: (e.g., B1) _____

Signature: _____

Student account username (e.g., msmith3): _____

- Signing signifies that you agree to comply with the **Academic Honor Code**.
- Calculators and cell phones are NOT allowed.

Completely fill in the box corresponding to your answer choice for each question.

1.	[A]	[B]	[C]	■■■
2.	■■■	[B]	[C]	[D]
3.	[A]	[B]	[C]	■■■
4.	[A]	■■■	[C]	[D]
5.	[A]	[B]	[C]	■■■
6.	[A]	■■■	[C]	[D]
7.	[A]	■■■	[C]	[D]
8.	■■■	[B]	[C]	[D]
9.	[A]	[B]	[C]	■■■
10.	[A]	[B]	■■■	[D]
11.	[A]	[B]	[C]	■■■
12.	[A]	■■■	[C]	[D]
13.	■■■	[B]	[C]	[D]
14.	■■■	[B]	[C]	[D]
15.	[A]	■■■	[C]	[D]
16.	■■■	[B]	[C]	[D]
17.	[A]	[B]	[C]	■■■
18.	[A]	[B]	■■■	[D]
19.	[A]	■■■	[C]	[D]
20.	■■■	[B]	[C]	[D]
21.	[A]	[B]	■■■	[D]
22.	■■■	[B]	[C]	[D]
23.	[A]	[B]	■■■	[D]
24.	■■■	[B]	[C]	[D]
25.	[A]	■■■	[C]	[D]

Number missed: _____ Final Score: _____

[4] 1. Which of the following is/are example(s) of metadata?

A. Types of data elements

B. Structure of records

C. Constraints

D. All of the above

[4] 2. What is the first step in database development?

A. Requirements analysis

B. Conceptual design

C. Logical design

D. Physical design

[4] 3. Which of the following are advantages of the database approach?

A. Storing metadata with the data

B. Insulation between data and programs.

C. Multiple views of the data for different users.

D. All of the above.

[4] 4. Which database technology is most pervasive and the focus of this course?

A. Hierarchical databases

B. Relational databases

C. Object-oriented databases

D. Document-oriented databases

[4] 5. Abstraction is ...

A. selective ignorance.

B. suppression of details.

C. for a particular application.

D. All of the above

[4] 6. Data independence is ...

A. the ability to store data on independent disks.

B. isolation of changes at one schema level from levels above it.

C. the freedom to change the data without consulting the DBA.

D. All of the above

[4] 7. The primary goal of the three-schema database architecture is

A. data integrity.

B. data independence.

C. data cohesion.

D. data processing.

[4] 8. External schemas

A. are views tailored to particular users

B. are specified with ER models

C. specify the storage structure of the data

D. None of the above

[4] 9. Conceptual models

A. provide a high-level but concrete view of data understandable by end users and database developers.

B. are developed after requirements analysis.

C. may influence changes in requirements as developers iterate the design with users.

D. All of the above

[4] 10. Entity-relationship models contain

A. entities, relationships and SQL code.

B. entities, constraints and storage schemas.

C. entities, attributes and relationships.

D. mappings bewtween levels of the three-schema architecture.

[4] 11. Structural constraints between entity types and relationships include

A. participation constraints.

B. cardinality ratios.

C. data types.

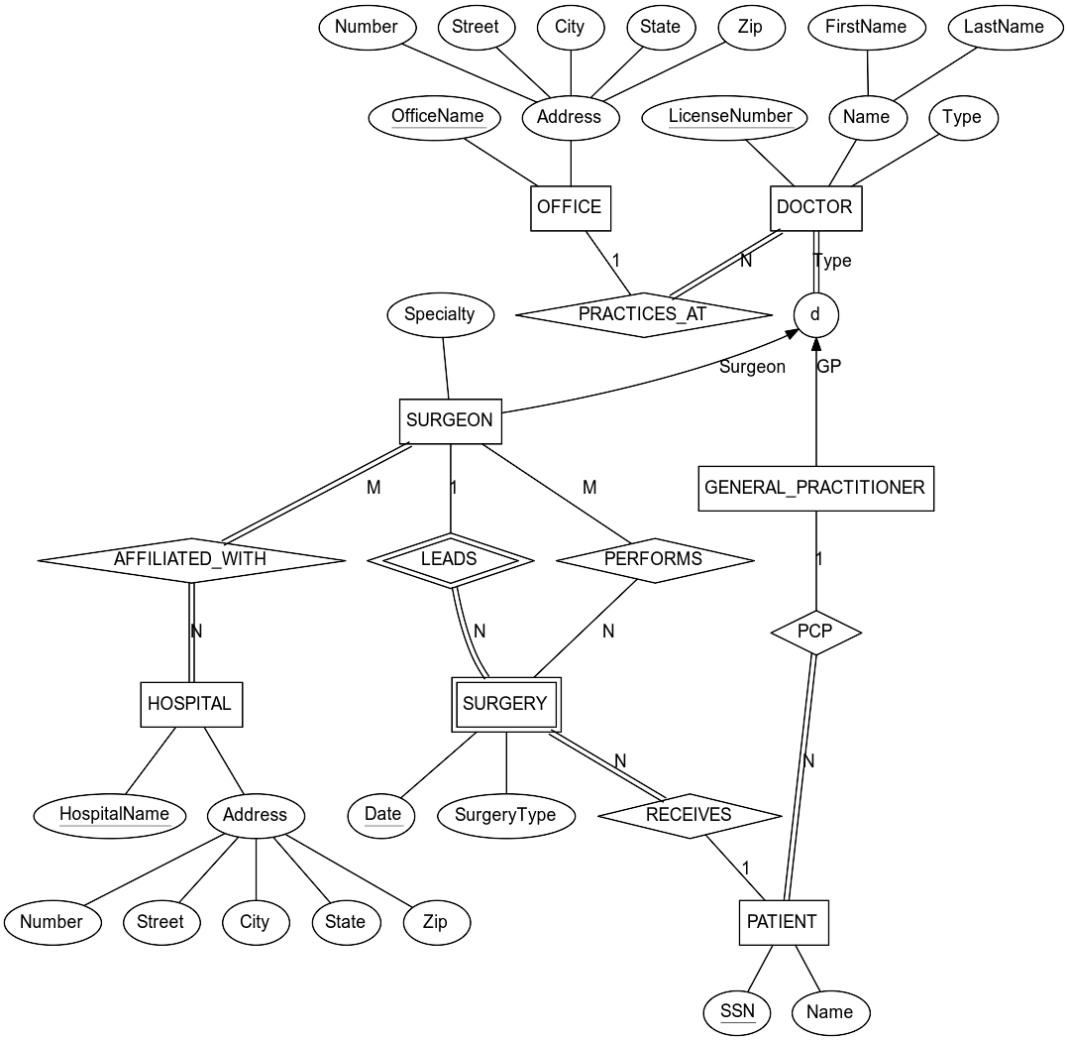
D. A and B above.

[4] 12. A weak entity has a key.

A. True

B. False

Refer to the following EER diagram for the remaining questions.



[4] 13. Can there be two OFFICE instances at the same Address?

A. Yes

B. No

[4] 14. Can there be an OFFICE instance without any DOCTORs who PRACTICE_AT that OFFICE?

A. Yes

B. No

[4] 15. Can there be a DOCTOR instance that does not PRACTICE_AT an OFFICE?

A. Yes

B. No

[4] 16. How many OFFICEs may a DOCTOR PRACTICE_AT?

A. 1

B. 0 or more

C. 1 or more

[4] 17. What is the full set of possible values for the Type attribute of DOCTOR?

A. {'Surgeon', 'GP', 'ER', NULL}

B. {'Surgeon', 'GP', 'ER'}

C. {'Surgeon', 'GP', NULL}

D. {'Surgeon', 'GP'}

[4] 18. Making no assumptions about the number of instances of any other entity type, the number of SURGEON instances is ____ the number of DOCTOR instances.

A. less than

B. equal to

C. less than or equal to

D. greater than

[4] 19. Can there be any DOCTOR instances that are not either SURGEON instances or GENERAL_PRACTITIONER instances?

A. Yes

B. No

[4] 20. Does the existence of a PATIENT instance imply the existence of an OFFICE instance?

A. Yes

B. No

[4] 21. If there are five SURGERY instances, how many DOCTOR instances are there?

A. Five or more

B. One or more

C. Two or more

D. Cannot be determined from the information given

[4] 22. How many HOSPITALs must a SURGEON be AFFILIATED_WITH?

A. One or more

B. Zero or more

C. More than 2

[4] 23. Which of the following is a valid key for a SURGERY instance?

A. $< Date, SurgeryType >$

B. $< SurgeryType, Specialty >$

C. $< LicenseNumber, Date >$

D. $< Date, SurgeryType, SSN >$

[4] 24. Given this EER model, how may SURGERYs may a SURGEON LEAD on a given Date?

A. 1

B. many

C. none

[4] 25. Given this EER model, if we wanted the SurgeryType attribute for each SURGERY instance to have the same value as the Specialty attribute of the SURGEON who LEADs the surgery, we would enforce this correponsdence with a

A. data integrity constraint.

B. semantic constraint/business rule.

C. participation constraint.

D. heuristic.