**Rogationist College**

**SCORE**

(St. Anthony’s Boys Village)

km.52 Emilio Aguinaldo Highway Lalaan II, Silang, Cavite

**DIRECTORATE FOR ACADEMIC AFFAIRS**

**COLLEGE DEPARTMENT**

COMPUTER STUDIES CLUSTER

**ITP55 – Advanced Database Systems**

**Prelim Examination**

**Name (Surname, Firstname, Middle Initial)**

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**Student Number Course and Section Date (dd-mm-yyyy)**

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**MULTIPLE CHOICE.**

On a separate answer sheet, shade the box that corresponds to the letter of the BEST answer.

ANY FORM OF ERASURES NULLIFY YOUR ANSWER.

1. What is a collection of interrelated data and a set of programs to access/modify those data?

1. database systems
2. database
3. data models
4. none of the above

2. This refers to a collection of conceptual tools for describing data, data relationships, data semantics, and consistency constraints

1. database systems
2. database
3. data models
4. none of the above

3. Which level of abstraction describes how the record is stored?

1. physical
2. logical
3. view
4. none of the above

4. This level of abstraction exists to simplify user interaction with the system.

1. physical
2. logical
3. view
4. none of the above

5. This refers to the actual content of the database at a particular point in time.

1. schema
2. instance
3. logical schema
4. physical schema

6. This describes the database design at the physical level

1. schema
2. instance
3. logical schema
4. physical schema

7. Which of the following does not work for DDLs?

1. create, alter, and drop schema objects
2. grant and revoke privileges and roles
3. add comments to the data dictionary
4. none of the above

8. Which of the following is not a DML statement?

1. select
2. delete
3. create
4. insert

9. This refers to a statement requesting the retrieval of information.

1. procedural DML
2. declarative DML
3. query
4. query language

10. What component of DBMS provides the interface between the low-level data stored in the database and the application programs and queries submitted to the system.

1. store manager
2. query processor
3. transaction management
4. none of the above

11. Which of the following is not included in the store manager component of DBMS?

1. authorization and integrity manager
2. file manager
3. buffer manager
4. query processor

12. This query processor component translates DML statements in a query language into an evaluation plan consisting of low-level instructions that the query evaluation engine understands.

1. DDL interpreter
2. DML compiler
3. query evaluation engine
4. buffer manager

13. Which query processor component executes low-level instructions generated by the DML compiler?

1. DDL interpreter
2. DML compiler
3. query evaluation engine
4. buffer manager

14. This refers to a collection of operations that performs a single logical function in a database application

1. store manager
2. query processor
3. transaction management
4. none of the above

15. In this database architecture, components are placed in different locations across the globe.

1. centralized
2. client-server
3. parallel
4. distributed

16. Which database architecture has one server machine executes work on behalf of multiple client machines.

1. centralized
2. client-server
3. parallel
4. distributed

17. This type of database user are computer professionals who write application programs.

1. application programmers
2. naïve users
3. sophisticated users
4. none of the above

18. Which database users interact with the system without writing programs?

1. application programmers
2. naïve users
3. sophisticated users
4. none of the above

19. Which of the following is not a function of a DBA?

1. granting of authorization for data access
2. schema definition
3. storage structure and access-method definition
4. designing database models

20. This refers to the row in a relation.

1. tuple
2. attribute
3. domain
4. table

21. What is the term used for set of permitted values for each attribute in a relation?

1. tuple
2. attribute
3. domain
4. table

22. This is a set of one or more attributes that, taken collectively, allow us to identify uniquely a tuple in the relation.

1. primary key
2. super key
3. candidate key
4. foreign key

23. What is a candidate key that is chosen by the database designer as the principal means of identifying tuples within a relation?

1. primary key
2. super key
3. null value
4. foreign key

24. This is an attribute (or collection of attributes) in a relation, that refers to the primary key in another relation

1. primary key
2. super key
3. null value
4. foreign key

25. This refers to a visual representation of a database system's structure and organization

1. database instance
2. database schema
3. schema diagram
4. query language

26. What do you call a snapshot of the data in the database at a given instant in time

1. database instance
2. database schema
3. schema diagram
4. query language

27. This refers to a language in which a user requests information from the database.

1. database instance
2. database schema
3. schema diagram
4. query language

28. This built in SQL data type A variable-length character string with user-specified maximum length.

1. char
2. varchar
3. string
4. float

29. This DML command deletes all information about the dropped relation from the database.

1. delete
2. drop
3. truncate
4. none of the above

30. This keyword/symbol is used to compare strings with pattern matching.

1. =
2. = =
3. like
4. %

31. You need to write a query that returns all Employees that have a LastName starting with the letter A. Which WHERE clause should you use to fill in the blank in this query?

1. WHERE LastName = A\*
2. WHERE LastName = LIKE '%A%'
3. WHERE LastName LIKE 'A%'
4. WHERE LastName IN ('A\*')

32. Which is the best approach to update the last name of the student Donette Figgins to Smith

1. UPDATE Students SET last\_name = 'Smith' WHERE email = 'dfiggins@rouxacademy.com';
2. UPDATE Students SET last\_name = 'Figgins' WHERE email = 'dfiggins@rouxacademy.com';
3. UPDATE Students SET last\_name = 'Figgins' WHERE last\_name = 'Smith' AND first-name = 'Donette';
4. UPDATE Students SET last\_name = 'Smith' WHERE last\_name = 'Figgins' AND first-name = 'Donette';

33. You need to remove all data from a table name Products. Which query fully logs the removal of each record?

1. TRUNCATE FROM Products \*;
2. DELETE FROM Products;
3. DELETE \* FROM Products;
4. TRUNCATE TABLE Products;

34. Which is the best approach to update the last name and email address of a student with ID 56295?

1. UPDATE Students SET last\_name='Smith', email = 'dsmith@rouxacademy.com' WHERE id='56295';
2. UPDATE Students SET last\_name='Smith', email = 'dsmith@rouxacademy.com' WHERE id=56295;
3. UPDATE Students SET last\_name='Smith' AND email = 'dsmith@rouxacademy.com' WHERE id=56295;
4. UPDATE Students SET last\_name='Smith' AND email = 'dsmith@rouxacademy.com' WHERE id='56295';

35. When you have a subquery inside of the main query, which query is executed first?

1. The subquery is never executed. Only the main query is executed.
2. They are executed at the same time
3. the main query
4. the subquery

36. In SELECT \* FROM clients; what does clients represent?

1. a SQL query
2. a SQL statement
3. a database
4. a table

37. If you need to order a table of movies by name, which query will work?

1. SELECT \* FROM movies GROUP BY name
2. SELECT \* FROM movies ORDER BY name
3. SELECT \* FROM movies ORDER TABLE by name
4. SELECT \* FROM movies FILTER BY name

38. How can you filter duplicate data while retrieving records from a table?

1. DISTINCT
2. WHERE
3. LIMIT
4. AS

39. How do you select every row in a given table named "inventory"?

1. SELECT all FROM inventory;
2. FROM inventory SELECT all;
3. FROM inventory SELECT \*;
4. SELECT \* FROM inventory;

40. Which choice is an example of an aggregate function?

1. foreign key()
2. in()
3. having ()
4. count()

For items 41 - 50, use the following tables to answer the questions.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Movie | |  |  |  |  |
| id | title | genre | gross | year | dir\_id |
| 1 | The Twilight Saga: New Moon | Drama | $709.82 | 2009 | 4 |
| 2 | Twilight: Breaking Dawn | Romance | $702.17 | 2011 | 5 |
| 3 | The Proposal | Comedy | $314.70 | 2009 | 3 |
| 4 | (500) Days of Summer | Comedy | $60.72 | 2009 | 2 |
| 5 | WALL-E | Animation | $521.28 | 2008 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Director | | |  | |
| id | First Name | Last Name | |
| 1 | Andrew | Stanton | |
| 2 | Marc | Webb | |
| 3 | Anne | Fletcher | |
| 4 | Chris | Weitz | |
| 5 | Bill | Condon | |

41. In creating the relationship for movie, what should be the type for gross?

1. number(3, 2)
2. number(4, 2)
3. number(5, 2)
4. all of the above

42. How can the referencing be established for the two tables?

1. foreign key(id) references director
2. foreign key(id) references movie
3. foreign key(dir\_id) references director
4. foreign key(dir\_id) references movie

43. A new movie will be added to the movie table, how can this be done?

1. insert into movie(6, ‘Titanic’, ‘Romance’, 113.52, 2000, null);
2. insert into movie(id, title, genre, gross, dir\_id) values (6, ‘Titanic’, ‘Romance’, 113.52, ‘2000’, null)
3. insert into movie(6, ‘Titanic’, ‘Romance’, 113.52, ‘2000’);
4. all of the above

44. What would the following query result into?  
select count(\*)

from movie

where genre = ‘Comedy’?

1. 1
2. 2
3. 3
4. 4

45. What would be the best query to sort the movies from highest to lowest gross income?

1. select \* from movie order by year;
2. select \* from movie order by year desc;
3. select \* from movie order by gross desc;
4. none of the above

46. What is the result of the following query?

select title from movie where genre = ‘Drama’ and year = ‘2009’;

1. The Twilight Saga: New Moon
2. Andrew
3. 709.82
4. 1

47. Which keyword lets you add column in the Director table?

1. insert
2. create
3. update
4. alter

48. What is the result of the following query?

update movie

set gross = 700.00

where id = 4;

1. nothing happens
2. updates all the gross in the movie table to 700.00
3. updates the gross of (500) Days of Summer in the movie table to 700.00
4. there is an error

49. What is the result of the following query?

select sum(gross)

from movie

group by genre

having genre = ‘Comedy’;

1. 314.70
2. 60.72
3. 375.42
4. 702.17

50. Which director made the most money from his/her movie in 2009?

1. Chris
2. Anne
3. Marc
4. Bill