COURSE : **Data Analytics Certification**

NAME : _____

BATCH : _____

DATE : _____

IVY – RDBMS & SQL – Level 1 Test Paper

Instructions (35 Questions – 45 minutes)

This test consists of 45 multiple choice questions. Sometimes multiple answers are correct, in which case this will clearly be indicated. You have 45 minutes to finish the test.

Table and column information

The multiple-choice questions in this test will use two tables: **COURSES**, which contains all the courses that can be followed, and **SESSIONS**, which describe actually organized courses.

Example: We find the course 'SQL Workshop' in the COURSES table (with, among others, title and course number). In the SESSIONS table we find organized sessions of courses (with e.g. date, instructor). The relation between the SESSIONS and COURSES table is made with the column S_CID. In the following tables you can find the values of the COURSES and SESSION table; the column descriptions follow the tables.

COURSES

CID	CTITLE	CDUR
7890	DB2	5
7910	Unix	4
8500	Oracle	5
8000	SQLServer	5
9000	SQL workshop	3

- **CID**: required, alphanumeric: course number (primary key).
- **CTITLE**: required, alphanumeric: course title.
- **CDUR**: required, numeric: course duration (in days).

SESSIONS

SNO	S_CID	SDATE	SINSTRUCTOR	SCANCEL
0	7890	2005-12-02	DE KEYSER	
1	7910	2005-11-04	SMITHS	
2	7890	2006-01-08	DE KEYSER	C
3	7890	2006-02-02	DE KEYSER	
4	8000	2006-04-05	TAVERNIER	C
5	7910	2006-01-08	ADAMSON	C
6	8500	2006-04-05	ADAMSON	
7	9000	2006-06-07	ADAMSON	

- **SNO**: required, numeric: session number (primary key).
- **S_CID**: optional, alphanumeric: course number (foreign key to COURSES).
- **SDATE**: optional, date: start date of the session.
- **SINSTRUCTOR**: required, alphanumeric: instructor.
- **SCANCEL**: optional, alphanumeric: indicates whether session has been cancelled. ("C" means "cancelled", empty (NULL) means non-cancelled.)

QUESTIONS

1. Can this query be executed and is it useful (according to the table and column definitions)?

```
SELECT CTITLE, CID
FROM   COURSES
WHERE  CID='7820'
```

O (a) Query cannot be executed (gives a syntax error).

O (b) Query can be executed and makes sense (according to the table and column definitions).

O (c) Query can be executed but returns nonsense.

2. Can this query be executed and is it useful (according to the table and column definitions)?

```
SELECT CTITLE
FROM   SESSIONS
WHERE  S_CID ='7820'
```

O (a) Query cannot be executed (gives a syntax error).

O (b) Query can be executed and makes sense (according to the table and column definitions).

O (c) Query can be executed but returns nonsense.

3. Can this query be executed and is it useful (according to the table and column definitions)?

```
SELECT 'CTITLE'
FROM   SESSIONS
WHERE  S_CID ='7820'
```

O (a) Query cannot be executed (gives a syntax error).

O (b) Query can be executed and makes sense (according to the table and column definitions).

O (c) Query can be executed but returns nonsense.

4. Can this query be executed and is it useful (according to the table and column definitions)?

```
SELECT SDATE, DISTINCT S_CID
FROM   SESSIONS
ORDER BYS_CID, SDATE
```

O (a) Query cannot be executed (gives a syntax error).

O (b) Query can be executed and makes sense (according to the table and column definitions).

O (c) Query can be executed but returns nonsense.

5. Can this query be executed and is it useful (according to the table and column definitions)?

```
SELECT SDATE
FROM    SESSIONS
ORDER BYSDATE
GROUP BYSDATE
```

O (a) Query cannot be executed (gives a syntax error).

O (b) Query can be executed and makes sense (according to the table and column definitions).

O (c) Query can be executed but returns nonsense.

6. Can this query be executed and is it useful (according to the table and column definitions)?

```
SELECT SNO
FROM    SESSIONS
WHERE   SCANCEL NOT = NULL
```

O (a) Query cannot be executed (gives a syntax error).

O (b) Query can be executed and makes sense (according to the table and column definitions).

O (c) Query can be executed but returns nonsense.

7. Which question corresponds best to the following query?

```
SELECT *
FROM    COURSES
WHERE   CTITLE LIKE '*SQL*'
          AND   CIDNOTIN('7800','7820')
```

O (a) Give the first row from the course table for which the column CTITLE equals *SQL* and for which the value in the column CID is neither 7800, nor 7820.

O (b) Give all rows from the course table for which the column CTITLE equals *SQL* and for which the value in the column CID is neither 7800, nor 7820.

O (c) Give the first row from the course table for which the column CTITLE contains the character sequence SQL and for which the value in the column CID is neither 7800, nor 7820.

O (d) Give all rows from the course table for which the column CTITLE contains the character sequence SQL and for which the value in the column CID is neither 7800, nor 7820.

O (e) Give the first row from the course table for which the column CTITLE equals *SQL* and for which the value in the column CID does not lie between 7800 and 7820.

O (f) Give all rows from the course table for which the column CTITLE equals *SQL* and for which the value in the column CID does not lie between 7800 and 7820.

O (g) Give the first row from the course table for which the column CTITLE contains the char- acter sequence SQL and for which the value in the column CID does not lie between 7800 and 7820.

O (h) Give all rows from the course table for which the column CTITLE contains the character sequence SQL and for which the value in the column CID does not lie between 7800 and 7820.

8. Which question corresponds best to the following query?

```
SELECT CID, CDUR -1,' =PRICE' FROM
        COURSES
ORDER BY2
```

O (a) Select three columns from the COURSES table, of which the third one has a constant value, i.e. "= PRICE". Leave an empty line after every second line.

O (b) Select two columns from the COURSES table, the second one gets as title "= PRICE". Sort the data according to the second column, in ascending order.

O (c) Select three columns from the COURSES table, of which the third one has a constant value, i.e. "= PRICE". Sort the data according to the second column, in ascending order.

O (d) Select two columns from the COURSES table, of which the second one has a constant value, i.e. "= PRICE". Sort the data according to the second column, in ascending order.

9. Which table will be the result of the query?

```
SELECT S_CID, MAX (SNO) FROM
        SESSIONS
GROUP BYS_CID
ORDER BY2
```

O (a)

S_CID	MAX(SNO)
7890	13
8000	14
7910	15
8500	16
9000	17

O (b)

S_CID	MAX(SNO)
7890	10,12,13
7910	11,15
8000	14
8500	16
9000	17

O (c)

S_CID	MAX(SNO)
7890	13
7910	15

O (d)

S_CID	MAX(SNO)
7890	10,12,13
7910	11,15

O (e)

S_CID	MAX(SNO)
9000	17

10. Which table will be the result of the query?

```
SELECT SNO, SDATE
FROM   SESSIONS
WHERE  WeekDayName(WeekDay(SDATE)) = 'Monday'
  AND  WeekDayName(WeekDay(SDATE)) = 'Tuesday'
```

O (a)

SNO	SDATE
10	2005-12-02
11	2005-11-04

O (b)

SNO	SDATE
10	2005-12-02

O (c)

SNO	SDATE
10,11	2005

O (d)

SNO	SDATE
10	2005

O (e)

SNO	SDATE

11. Give an equivalent for

```
WHERE S_CID BETWEEN '7000' AND '8000'
```

[2 correct answers.]

O (a) WHERE S_CID >='7000' AND S_CID <='8000'

O (b) WHERE S_CID >='7000' AND S_CID < '8000'

O (c) WHERE S_CID >'7000' AND S_CID <='8000'

O (d) WHERE S_CID >'7000' AND S_CID < '8000'

O (e) WHERE S_CID <='8000' AND NOT S_CID <'7000'

O (f) WHERE S_CID <'8000' AND NOT S_CID < '7000'

O (g) WHERE S_CID >='7000' AND NOT S_CID >='8000'

O (h) WHERE S_CID > '7000' AND NOT S_CID >='8000'

12. Which queries give an answer to the following question? [2 correct answers.] Give a list of all courses which took or will take place at least twice.

O (a)

```
SELECT S_CID, COUNT(*) FROM
        SESSIONS
WHERE   SCANCEL ISNULL AND
          COUNT(*) >=2
```

O (b)

```
SELECT CID, COUNT(CID) FROM
        COURSES
WHERE   COUNT(CID) >=2
```

O (c)

```
SELECT S_CID, COUNT(S_CID) FROM
        SESSIONS
WHERE   SCANCEL ISNULL
GROUP BYS_CID
HAVING COUNT(*) >=2
```

O (d)

```
SELECT CID, COUNT(*) FROM
        COURSES
GROUP BYCID
HAVING COUNT(*) >=2
```

O (e)

```
SELECT S_CID, COUNT(*) FROM
        SESSIONS
WHERE   SCANCEL ISNULL
GROUP BYS_CID
HAVING COUNT(S_CID) >=2
```

O (f)

```
SELECT CID, COUNT(*) FROM
        COURSES
GROUP BYCID
HAVING COUNT(SCANCEL) =0
```

O (g)

```
SELECT S_CID, COUNT(*) FROM
        SESSIONS
GROUP BYS_CID
HAVING COUNT(SCANCEL) =0
```

O (h)

```
SELECT CID, COUNT(SESSIONS) FROM
        COURSES
```

13. Which table will be the result of the query?

```
SELECT MAX(S_CID) ASS_CID FROM
        SESSIONS
GROUP BYSINSTRUCTOR
HAVING COUNT(SDATE) >1
```

O (a)

S_CID
7890
7910
8000
8500
9000

O (b)

S_CID
7890
7910
8000
9000

O (c)

S_CID
7890
7910
8000
8500

O (d)

S_CID
7910
8500

O (e)

S_CID
7890
9000

O (f)

S_CID
9000

14. Which table will be the result of the query?

```
SELECT DISTINCT S_CID FROM
        SESSIONS
WHERE   SCANCEL ISNULL
```

O (a)

S_CID
7890
7890
7910
8500
9000

O (b)

S_CID
7890
7910
8500
9000

O (c)

S_CID
8000
8500
9000

O (d)

S_CID
7910
8500
9000

O (e)

S_CID
7890
7910
8000

O (f)

S_CID
7890
7910

15. Which queries give an answer to the following question? [2 correct answers.]

Give, per course number, an overview of the sessions, and mention whether they are cancelled or not. Sort the results per course by the column SCANCEL.

O (a)

```
SELECT    S_CID, SNO, SCANCEL FROM
          SESSIONS
GROUP BYS_CID, SCANCEL
```

O (b)

```
SELECT    S_CID, SNO, SCANCEL FROM
          SESSIONS
ORDER BYS_CID, SCANCEL
```

O (c)

```
SELECT    S_CID, SNO, SCANCEL FROM
          SESSIONS
GROUP BYS_CID
ORDER BYSCANCEL
```

O (d)

```
SELECT    S_CID, SNO, SCANCEL FROM
          SESSIONS
GROUP BYSNO
ORDER BYS_CID, SCANCEL
```

O (e)

```
SELECT    S_CID, SNO, SCANCEL FROM
          COURSES, SESSIONS ORDER
BYCID, SCANCEL, SNO
```

O (f)

```
SELECT    S_CID, SNO, SCANCEL FROM
          COURSES, SESSIONS
WHERE     CID=S_CID
ORDER BYS_CID, SCANCEL, SNO
```

16. You can add a row using SQL in a database with which of the following?

- O (a) ADD
- O (b) CREATE
- O (c) INSERT
- O (d) MADE

17. The command to remove rows from a table 'CUSTOMER' is:

- O (a) REMOVE FROM CUSTOMER
- O (b) DROP FROM CUSTOMER
- O (c) DELETE FROM CUSTOMER WHERE
- O (d) UPDATE FROM CUSTOMER

18. The SQL WHERE clause:

- O (a) limits the column data that are returned
- O (b) limits the row data are returned
- O (c) Both A and B are correct
- O (d) Neither A nor B are correct

19. The wildcard in a WHERE clause is useful when?

- O (a) An exact match is necessary in a SELECT statement
- O (b) An exact match is not possible in a SELECT statement
- O (c) An exact match is necessary in a CREATE statement
- O (d) An exact match is not possible in a CREATE statement

20. The command to eliminate a table from a database is:

- O (a) REMOVE TABLE CUSTOMER
- O (b) DROP TABLE CUSTOMER
- O (c) DELETE TABLE CUSTOMER
- O (d) UPDATE TABLE CUSTOMER

21. ON UPDATE CASCADE ensures which of the following?

- O (a) Normalization
- O (b) Data Integrity
- O (c) Materialized Views
- O (d) All of the above

22. The SQL keyword(s) _____ is used with wildcards?

- O (a) LIKE only
- O (b) IN only
- O (c) NOT IN only
- O (d) IN and NOT IN

23. Which of the following is the correct order of keywords for SQL SELECT statements?

- O (a) SELECT, FROM, WHERE
- O (b) FROM, WHERE, SELECT
- O (c) WHERE, FROM,SELECT
- O (d) SELECT,WHERE,FROM

24. A subquery in an SQL SELECT statement is enclosed in

- O (a) Braces -- {...}
- O (b) CAPITAL LETTERS
- O (c) Parenthesis -- (...)
- O (d) Brackets -- [...]

25. Which of the following are the five built-in functions provided by SQL?

- O (a) COUNT, SUM, AVG, MAX, MIN
- O (b) SUM, AVG, MIN, MAX, MULT
- O (c) SUM, AVG, MULT, DIV, MIN
- O (d) SUM, AVG, MIN, MAX, NAME

26. The HAVING clause does which of the following?

O (a) Acts like a WHERE clause but is used for groups rather than rows

O (b) Acts like a WHERE clause but is used for rows rather than columns

O (c) Acts like a WHERE clause but is used for columns rather than groups

O (d) Acts EXACTLY like a WHERE clause

27. To remove duplicate rows from the results of an SQL SELECT statement, the _____ qualifier specified must be included

O (a) ONLY

O (b) UNIQUE

O (c) DISTINCT

O (d) SINGLE

28. SQL query and modification commands make up a(n) _____

O (a) DDL

O (b) DML

O (c) HTML

O (d) XML

29. When three or more AND and OR conditions are combined, it is easier to use the SQL keyword (s):

O (a) LIKE only

O (b) IN only

O (c) NOT IN only

O (d) Both IN or NOT IN

30. The Microsoft Access wildcards are ____ and ____

O (a) Asterisk (*); percent sign (%)

O (b) Percent sign (%); underscore (_)

O (c) Underscore(_); question mark (?)

O (d) Question mark (?); asterisk (*)

31. Find the SQL statement below that is equal to the following: SELECT NAME FROM CUSTOMER WHERE STATE = 'VA';

- O (a) SELECT NAME IN CUSTOMER WHERE STATE IN ('VA')
- O (b) SELECT NAME IN CUSTOMER WHERE STATE = 'VA'
- O (c) SELECT NAME IN CUSTOMER WHERE STATE = 'V'
- O (d) SELECT NAME FROM CUSTOMER WHERE STATE IN ('VA')

32. Which one of the following sorts rows in SQL?

- O (a) SORT BY
- O (b) ALIGN BY
- O (c) ORDER BY
- O (d) GROUP BY

33. To define what columns should be displayed in an SQL SELECT statement:

- O (a) Use from to name the source table(s) and list the columns to be shown after SELECT
- O (b) Use using to name the source table(s) and list the columns to be shown after SELECT
- O (c) Use SELECT to name the source table(s) and list the columns to be shown after USING
- O (d) Use USING to name the source table(s) and list the columns to be shown after WHERE

34. The SQL keyword BETWEEN is used:

- O (a) For ranges
- O (b) To limit the columns displayed
- O (c) As a wildcard
- O (d) None of the above is correct

35. The SQL statement that queries or reads data from a table is _____:

- O (a) Select
- O (b) Read
- O (c) Query
- O (d) None of the above is correct