



# Catholic University Institute of Buea (CUIB)

2020/2021 ACADEMIC YEAR

First Semester Examinations – February/March 2021



School	INFORMATION TECHNOLOGY				
Course Code	SIT 393	Course Title	Oracle Certified Associate		
Status	C	Credit Value	12	Dept	Software Engineering
Date	04/03/2021	Venue	BUEA / DOUALA LH 2 / LH1	Time	10:30 AM – 12:30 PM
Course Master(s)	Mr. Nyambi Abine Randy				

**Instructions:** Answer ALL questions in Section A & B. For Section C, answer Question 1 and one other question.

## Section A:

(15 marks)

Answer all questions by choosing the letter(s) corresponding to the most appropriate answer. All questions carry equal marks (1 mark each)

**Q1.** The **DESC** command can be used to do which of the following?

- ☒ A. Show a table's columns and the data types of those columns
- ☐ B. Show a brief paragraph describing what the table does
- ☐ C. Show a table's name and who created it
- ☐ D. Show the data that is contained within a table

**Q2.** What can a **SELECT** statement be used to query?

- ☐ A. One or more reports
- ☐ B. One or more tables
- ☐ C. Only one table
- ☒ D. Only one report



Q3. Which two statements are true regarding constraints? (Choose two.)

- ☐ A. A table can have only one primary key and one foreign key.
- ☒ B. A table can have only one primary key but multiple foreign keys.
- ☐ C. Only the primary key can be defined at the column and table levels.
- ☐ D. The foreign key and parent table primary key must have the same name.
- ☒ E. Both primary key and foreign key constraints can be defined at both column and table levels.

Q4. Which two statements are true regarding constraints? (Choose two.)

- ☐ A. A foreign key cannot contain NULL values.
- ☒ B. The column with a UNIQUE constraint can store NULLS.
- ☐ C. A constraint is enforced only for an INSERT operation on a table.
- ☒ D. You can have more than one column in a table as part of a primary key.

Q5. Assume you have a table ITEMS that includes a column STATUS. Which of the following statements is syntactically correct? (Choose three)

- ☐ A. SELECT \* FROM ITEMS FETCH NEXT 20 % ROWS ONLY;
- ☒ B. SELECT \* FROM ITEMS FETCH NEXT 20 PERCENT ROWS ONLY;
- ☒ C. SELECT \* FROM ITEMS FETCH NEXT 20 ROWS WITH TIES;
- ☒ D. SELECT \* FROM ITEMS ORDER BY STATUS FETCH NEXT 20 ROWS WITH TIES;

Q6. When using ANSI join syntax, which clause is used to specify a join condition?

- ☐ A. JOIN
- ☐ B. USING
- ☒ C. ON
- ☐ D. WHERE

Q7. Which two operators are not allowed when using an outer join operator in the query? (Choose two.)

- ☒ A. OR
- ☐ B. AND
- ☒ C. IN
- ☐ D. =



**Q8. Which line of the code has an error?**

```
1 SELECT department_id, count(*)  
2 FROM employees  
3 GROUP BY department_id  
4 HAVING COUNT(department_id) =  
5 (SELECT max(count(department_id))  
6 FROM employees  
7 GROUP BY department_id);
```

- A. Line 3
- B. Line 4
- C. Line 5
- D. Line 7
- ☒ E. No error

**Q9. Review the SQL code, and choose the line number that has an error.**

```
1 SELECT DISTINCT department_id  
2 FROM employees  
3 ORDER BY department_id  
4 UNION ALL  
5 SELECT department_id  
6 FROM departments  
7 ORDER BY department_id
```

- A. 1
- ☒ B. 3
- C. 6
- D. 7
- E. No error



Q10. Which of the following statements will not implicitly begin a transaction?

A. INSERT

B. UPDATE

C. DELETE

D. SELECT FOR UPDATE

~~E. None of the above; they all implicitly begin a transaction, if not started already.~~

Q11. The CUSTOMERS and ORDERS tables have the following data:

SQL> SELECT \* FROM customers;

CUST_	CUST_NAME	PHONE	CITY
A0101	Abraham Taylor Jr.		Fort Worth
B0134	Betty Baylor	972-555-5555	Dallas
B0135	Brian King		Chicago

SQL> SELECT \* FROM orders;

ORD_DATE	PROD_ID	CUST_ID	QUANTITY	PRICE
20-FEB-00	1741	B0134	5	65.5
02-FEB-00	1001	B0134	25	2065.85
02-FEB-00	1001	B0135	3	247.9

When the following query is executed, what will be the value of PROD\_ID and ORD\_DATE for the customer Abraham Taylor, Jr.?

SELECT c.cust\_id, c.cust\_name, o.ord\_date, o.prod\_id

FROM customers c, orders o

WHERE c.cust\_id = o.cust\_id (+);

A. NULL, 01-JAN-01

~~B. NULL, NULL~~

C. 1001, 02-FEB-00

D. None of the above



**Q12.** Which actions are allowed on a table that is marked as read-only? (Choose Three.)

- ☐ A. Truncating a table
- ☐ B. Inserting new data
- ☒ C. Dropping a constraint
- ☒ D. Dropping an index
- ☒ E. Dropping a table

**Q13.** Column alias names cannot be used in which clause?

- ☐ A. SELECT clause
- ☒ B. WHERE clause
- ☐ C. ORDER BY clause
- ☐ D. None of the above

**Q14.** Which dictionary view would you query to list only the tables you own?

- ☐ A. ALL\_TABLES
- ☒ B. DBA\_TABLES
- ☒ C. USER\_TABLES
- ☐ D. USR\_TABLES

**Q15.** When you try to save 34567.2255 into a column defined as NUMBER (7, 2), what value is actually saved?

- ☐ A. 34567.00
- ☒ B. 34567.23
- ☐ C. 34567.22
- ☐ D. 3456.22



**Section B:**

**Q1. Which statement is true?**

- A. A database can have only one control file.
- B. A database must have at least two control files.
- C. A database may have zero or more control files.
- ☒ D. A database must have at least one control file.

**Q2. Which component is not part of an Oracle instance?**

- A. System global area
- ☒ B. Process monitor
- C. Control file
- D. Shared pool
- E. None

**Q3. Which background process guarantees that committed data is saved even when changes have not been recorded in data files?**

- ☒ A. DBWn
- B. PMON
- C. LGWR
- D. CKPT
- E. ARCn

**Q4. When an incremental checkpoint happens in a database, which file(s) are updated with the checkpoint position? (Choose one).**

- A. Data files
- B. Control files
- C. Initialization Parameter Files
- ☒ D. Redo log files
- E. Archive log files





**Q5. Choose two SGA structures that are required in every Oracle instance.**

- ☐ A. Large pool
- ☒ B. Shared pool
- ☒ C. Buffer cache
- ☐ D. Java pool

**Q6. Which startup options must be used to start the instance when you create a new database?**

- ☐ A. STARTUP FORCE
- ☒ B. STARTUP MOUNT
- ☐ C. STARTUP RESTRICT
- ☐ D. STARTUP NOMOUNT

**Q7. All of the following are database-management options within the Database Configuration Assistant (DBCA) except which one?**

- ☐ A. Change Database Initialization Parameters
- ☐ B. Create a Database
- ☒ C. Manage Templates
- ☐ D. Delete a Database

**Q8. Your database is not responding and is in a hung state. You want to shut down and start the database to release all resources. Which statements would you use? (Choose Two)**

- ☒ A. STARTUP AFTER SHUTDOWN
- ☐ B. STARTUP FORCE
- ☒ C. SHUTDOWN FORCE
- ☐ D. SHUTDOWN ABORT and STARTUP

**Q9. Why are online backups known as inconsistent backups?**

- ☐ A. Because not all control files are synchronized to the same SCN until the database is shut down
- ☐ B. Because both committed and uncommitted transactions are included in a backup when the database is online
- ☒ C. Because a database failure while an online backup is in progress can leave the database in an inconsistent state

D. Because online backups make copies of data files while they are not consistent with the control file

**Q10. Which allocation unit is the smallest?**

A. Data file

B. Extent

☒ C. Data block

☐ D. Segment

**Q11. To place the database into ARCHIVELOG mode, in which state must you start the database?**

☒ A. MOUNT ;

B. NOMOUNT

C. OPEN

D. SHUTDOWN

E. Any of the above

**Q12. You created a database user using the following statement. Which option will connect the user successfully to the database?**

**CREATE USER JOHN IDENTIFIED BY John1;**

**GRANT CONNECT TO JOHN;**

A. CONNECT JOHN/JOHN1

☒ B. CONNECT JOHN/john1

☒ C. CONNECT john/John1

D. All of the above

**Q13. Which of the following is the correct way to start a listener called LISTENER?**

☒ A. lsnrctl startup listener

☒ B. lsnrctl start

C. netca start

☐ D. netmgr start listener





**Q14.** A client receives the following error message:

Error: "ORA-12154 TNS:could not resolve the connect identifier specified"

Which of the following could be possible causes of the error? (Choose Two.)

- A. The listener is not running on the Oracle server.
- B. The user entered an invalid net service name.
- ☒ C. The user supplied the correct net service name, but the net service name is misspelled in the *tnsnames.ora* file on the client file.
- ☒ D. The listener is not configured to listen for this service

**Q15.** A client wants to connect to the database service *dbprod.com* located on the *dbprod.com* server through a nondefault port (1522) using Oracle Easy Connect. Which of the following connect strings are the choices for the client to use? (Choose two.)

- ☒ A. CONNECT *scott/tiger@dbprod.com:1522*
- B. CONNECT *scott/tiger@1522:dbprod.com/dbprod.com*
- C. CONNECT *scott/tiger@//dbprod.com/1522:dbprod.com*
- D. CONNECT *scott/tiger@dbprod.com:1522/dbprod.com*



### Question 3 (10 marks)

- i. List 4 required oracle background processes. (2marks)
- ii. List 4 optional oracle background processes. (2marks)
- iii. By default, every Oracle Database 12c must have at least three tablespaces. List the three required tablespace in Oracle 12c. (3marks)
- iv. State whether the following statements are true or false. (3 marks)
  - a. The SGA includes the database buffer cache and redo log buffer. false
  - b. Each server process has its own PGA. true
  - c. The buffers in the database buffer cache are organized in two lists: the most recently used list and the least recently used (LRU) list. false
  - d. User processes run the application or tool that connects to an Oracle instance. true
  - e. Oracle Database processes include server processes and background processes. true
  - f. Checkpoints are recorded in log file headers. true

Process monitor  
database writer  
check point  
system moni

**GOODLUCK!**

recovery writer  
log  
log server  
archiver

permanent  
undo  
tempora

**SECTION C: Answer Question 1 and one other question (Total=20 Marks)**

**Question 1: Real life scenario tasks as a DBA**

**(10 marks)**

You are the database administrator in the company TextbooksOnline. TextbooksOnline is a Web-based company that links stores that sell used textbooks. Databases track inventory information supplied by the stores and supply buyers with a list of stores that carry the requested book, with the price information from each store. A separate database handles the sales made through TextbooksOnline.

- i. Several Oracle database management tools are available for the DBA to interact with and manage the Oracle Database 12c used in TextbooksOnline. List three tools you (DBA) can use to administer the database. **(3 marks)**
- ii. The system administrator unknowingly terminated the process ID belonging to the PMON process of the database using the `kill -9` command on UNIX.
  - a. What will happen to the database instance?
  - b. Will the database continue to handle user request coming from the web application? If No, how will you solve this problem? **(3 marks)**
- iii. You are asked to grant `select`, `insert` and `update` privileges on the `SUPPLIER` table to the user account `devops`. Write the SQL statement to perform this task. **(2 marks)**
- iv. Create an account in the database with username `randy` and password `Lion`.
  - a. Write the SQL statement to perform this task. **(1 mark)**
  - b. Which default privilege(s) is granted to the user after it is created? **(1 mark)**

**Question 2:**

**(10 marks)**

- i. What would be the main responsibilities of an Oracle DBA in an organization? **(4 marks)**
- ii. At what stages does an instance pass while starting up? **(3 marks)**
- iii. The Oracle-recommended backup strategy uses RMAN to make a one-time, whole-database, baseline incremental level 0 online backup and then a daily level 1 incremental backup. Give the RMAN commands to accomplish the following backup strategy.
  - a. Incremental level 0 backup **(1 mark)**
  - b. Differential incremental backup **(1 mark)**
  - c. Cumulative incremental backup **(1 mark)**

