NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMPUTING AND INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE

QUALIFICATION: BACHELOR OF COMPUTER SCIENCE, BACHELOR OF INFORMATION TECHNOLOGY	
QUALIFICATION CODE: 07BACS, 80BSAN, 80BSSD	**LEVEL:** 7
COURSE: DATABASE ADMINISTRATION	**COURSE CODE:** DBA712S
DATE: JANUARY 2019	**SESSION:** 2
DURATION: 3 HOURS	**MARKS:** 100

SUPPLEMENTARY/SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
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THIS QUESTION PAPER CONSISTS OF 6 PAGES
(Excluding this front page)

INSTRUCTIONS

1. Answer ALL the questions.
2. Write clearly and neatly.
3. Number the answers clearly.
4. When answering questions you should be guided by the allocation of marks in [ ]. Do not give too few or too many facts in your answers.

PERMISSIBLE MATERIALS

1. Non programmable Scientific Calculator.

Section A: Multiple Choice, 16 marks one mark each.

1. PL/SQL is
   A. An object-oriented language
   B. Plain Logic SQL:
   C. A special language for the DBA
   D. A procedural extension of SQL
   E. A standardized language for all database vendors

2. What is a trigger

   A. A piece of logic written in PL/SQL
   B. Executed at the arrival of a SQL*FORMS event
   C. Both A & B
   D. None of the above

3. All datafiles related to a Tablespace are removed when the Tablespace is dropped
   A. TRUE
   B. FALSE

4. The size of Tablespace can be increased by
   A. Increasing the size of one of the Datafiles
   B. Adding one or more Datafiles
   C. Cannot be increased
   D. None of the above

5. Can an Integrity Constraint be enforced on a table if some existing table data does not satisfy the constraint
   A. Yes
   B. No

6. Which of the following does not affect the size of the SGA
   A. Database buffer
   B. Redolog buffer
   C. Stored procedure
   D. Shared pool

7. The Data Manipulation Language statements are
    A. INSERT
    B. UPDATE
    C. SELECT
    D. All of the above

8. The Enterprise Manager
    A. Is always available when the database is started
    B. Is a separate service running under the OS
    C. When it is stopped, the database will automatically shut down
    D. Is a project management tool
    E. Is required to run database applications

9. After a server crash due to power failure, what is needed?
    A. Manual database recovery
    B. The STARTUP RECOVER command
    C. Automatic rollback of previously unfinished transactions
    D. Empty out buffers
    E. Reset the log files

10. A Tablespace is
    A. The space that a table occupies
    B. The same as a data file
    C. A formatted view of the space of one or more data files
    D. A part of a data file
    E. An extent of a table

11. A View is
    A. A more detailed look at a table
    B. A description of column names
    C. A diagram of table relationships
    D. A pre-programmed SELECT statement against one or more tables
    E. A stored set of data on the database

12. Creating an Account does not require
    A. A unique user-id
    B. A list of tables to be accessed
    C. A user profile
    D. An authentication method
    E. One or more tablespaces to be used

13. SQL*Pump is a utility for:
    A. Loading data from an external file
    B. Export and import data and metadata from a database
    C. Reformat data during loading a database
    D. Checking for incompatible data and discard them
    E. Loading data using `SQL INSERT` commands

14. A User can
    A. Be assigned multiple roles
    B. Have multiple schemas
    C. Have the privilege to access one or more table spaces
    D. Have an authorization method that does not require a password
    E. Have multiple concurrent sessions

15. What does the Listener NOT do??
    A. Create a server process
    B. Monitor network traffic on a particular port
    C. Receive requests to connect to one or more databases
    D. Keep a client session active
    E. Provide network listening services for non-Oracle applications

16. Which of the following is not a reason for the fact that most of the processing is done at the server?
    A. To reduce network traffic.
    B. For application sharing.
    C. To implement business rules centrally.
    D. None of the above

Section B: Structured Questions

Question 1

a. Describe what each of the following schema objects does for Database
   Administration: [10]

   i.   View
   ii.   Index
   iii. Package
   iv.   Trigger
   v.   Sequence

b. Describe the three common database interfaces in an Oracle database.   [6]

Question 2

One way of ensuring continuity in an organisation is to constantly have backups of critical information in a database. Table 2.1 shows three types of backup that can be implemented by a DBA. Copy this Table to your answer book and fill out the information required in columns 2, 3 and 4.   [12]

Type of backup	Description	Advantage	Disadvantage
Full			
Differential			
Incremental			

Table 2.1

Question 3

a. Differentiate between User privileges and Roles.   [2]

b. Give four benefits for the use of Roles in database administration and explain what
   advantage they offer.   [8]

Question 4

The world of Database Administration is evolving. The tasks that are performed by DBA have also changed somewhat with the advent of newer technologies. Outline at least 5 tasks/challenges that modern DBA perform that differ from the traditional ones. [10]

Question 5

    a. What is the purpose of assigning a profile to a user; describe two?

                                  [4]

    b. Give at least three factors that DBAs consider when selecting an authentication method for their users.   [6]

    c. When creating users why is it important to assign them temporary tablespaces?

                                    [2]

    d. What happens if you do not assign them temporary tablespaces?   [2]

    e. What is the relationship between a user and a schema?   [2]

Section C: Database SQL commands

Question 1

a. Describe what each of the following SQL commands achieve?   [10]

     i.   CONNECT ruva/rashe
    ii.   lsnrctl STATUS
   iii.   SELECT name from v$database
    iv.   Tnsping sales
     v.   UTL_SMTP

b. Explain what the Fine Grained Audit Policy called `audit_emps_salary` below is doing.   [10]

```
dbms_fga.add_policy (
   object_schema      =>    'hr',
   object_name        =>    'employees',
   policy_name        =>    'audit_emps_salary',
   audit_condition    =>    'dept_id=10',
   audit_column       =>    'salary',
   handler_schema     =>    'secure',
   handler_module     =>    'log_emps_salary',
   enable             =>    TRUE,
   statement_types    =>    'select');
```

<<<<<<<< END >>>>>>>>