namibia university
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMPUTING AND INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE

QUALIFICATION: BACHELOR OF COMPUTER SCIENCE (SYSTEMS ADMINISTRATION)	
QUALIFICATION CODE: 07BCMS	**LEVEL:** 7
COURSE: Database Administration	**COURSE CODE:** DBA712S
DATE: June 2024	**SESSION:** 1
DURATION: 3 hours	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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THIS QUESTION PAPER CONSISTS OF 5 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

1. Non programmable Scientific Calculator.

1. The following database activities can be audited?   [1]
   a. Logging on to the database
   b. Use of privileges and roles
   c. Executing SQL statements
   d. All of the above

2. Which one is not a backup and recovery objective?   [1]
   a. Physical data protection
   b. Logical data protection
   c. Recovery analysis
   d. Data export

3. Which of the following is not part of the phases of instance recovery?   [1]
   a. Instance startup
   b. Roll forward
   c. Database closed
   d. Roll back

4. Database failure like user error have solutions, which of the following is user error solutions [1]
   a. Roll back transaction
   b. Keep the table in the recycle bin
   c. No backup
   d. None of the above

5. Which of the following is a database challenge in an organization?   [1]
   a. Scalability
   b. Adaptability
   c. Data security
   d. All of the above

6. Which one of the following is not a database application?   [1]
   a. Social media sites
   b. E-commerce websites
   c. Calculator Application
   d. Online Banking systems

7. What is the role of an index in a database? [1]
   a. To speed up data retrieval
   b. To enforce data integrity
   c. To store large binary objects
   d. To create a relationship between tables

8. Which of the following is not a valid database constraint? [1]
   a. Primary key
   b. Foreign key
   c. Unique
   d. Duplicate

9. After the Oracle database is installed, SQL commands cannot be run in [1]
   a. Command Prompt
   b. iSQL*Plus
   c. SQL Developer
   d. None of the above

10. Which of the following is not a type of tablespaces [1]
    a. Permanent Tablespace
    b. Temporary Tablespace
    c. Unique Tablespace
    d. System Tablespace
    e.

11. A tablespace can be created using [1]
    a. Sql*plus
    b. Database enterprise manager
    c. CMD
    d. All of the above

12. The instance only consists of background processes. [1]
    a. True
    b. False

13. Sys is an Oracle database user that does not have the privileges of creating other users. [1]
    a. True
    b. False

14. Random Access Memory (RAM) does not retain its contents when the power of the host machine is turned off. [1]
    a. True
    b. False

15. Redo log buffer is a System Global Area (SGA) component that copies data blocks in the database. [1]
    a. True
    b. False

Section B Structured Questions [55 marks]

Question 1

Describe what each of the following is used for in Database Administration: [10]

Profiles
Quota
Auditing
Parameter
Extent

Question 2

a) Distinguish the following oracle database terms.

   Block header and Row data [4]

b) In Oracle, there are two main types of auditing policies: system-wide auditing and object-specific auditing. Explain this two auditing policies and give one example of each auditing policies [8]

c) In an Oracle database, the Log Writer (LGWR) process and redo log files are integral components for ensuring data integrity and recoverability. Mention and explain two responsibilities of log writer process and two responsibilities of Redo log file: [8]

d) Mention two problems that cause Database user error and for each error what could be the solution. [4]

e) In the data block why is that block header expand/increase downward from the top?   [2]

f) Mention 3 types of tablespaces and what is the function of these types of tablespaces?   [6]

g) Value-based auditing using database triggers is a method used by companies and organizations to track changes made to database records. Give a step-by-step explanation of how this process takes place. You can use the diagram in your explanations.   [10]

h) Mention three Oracle parameters examples   [3]

Section 3: Practical questions   **[30marks]**

Question 1

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

    a) SHOW PARAMETER SPFILE;
    b) CREATE PROFILE NUSTPROFILE LIMIT IDLE_TIME 25;
    c) SELECT * FROM DBA_ROLES;
    d) GRANT CREATE VIEW TO INVENTORY;
    e) DROP TABLE INVENTORY.FARM_PRODUCTS;

Question 2

    a) Create a role name HRCLERK with SELECT and UPDATE permissions on the hr.employees table.   [5]

    b) Create a new tablespace to hold information for the KULIMA application. Characteristics for the new tablespace are: [5]

Tablespace Name: KULIMA	File size: 80 MB
Extent management: Local	AUTOEXTEND: disabled
Type: Permanent	Extent Allocation: Automatic
Status: Read Write	Segment space management: Auto
File name: kulima01.dbf	Enable Logging: Yes

File directory: default   Use default thresholds

c) Write SQL command to see the tablespace name you have created and its size   (5)

d) Create a new user account to own database objects for a new KULIMA application.The username should be your name and a password is lipungu. Make the user's default tablespace KULIMA tablespace.   (3)

e) Write SQL command to see the user you have created   (2)

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