



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMPUTING AND INFORMATICS**

**DEPARTMENT OF COMPUTER SCIENCE**

<b>QUALIFICATION:</b> DIPLOMA IN GEOMATICS NQF: 6 BACHELOR OF BUSINESS COMPUTING NQF: 7 BACHELOR OF PROPERTY STUDIES HONS. NQF: 8 BACHELOR OF INFORMATION TECHNOLOGY (SYSTEMS ADMINISTRATION AND NETWORKS) NQF: 7	
<b>QUALIFICATION CODE:</b> 27DGEM, 80BSBC, 27BPRS, 80BSAN	<b>LEVEL:</b> 6
<b>COURSE:</b> INTRODUCTION TO DATABASES 1B	<b>COURSE CODE:</b> IDB220S
<b>DATE:</b> NOVEMBER 2019	<b>SESSION:</b> 1
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	<b>MS JOSEPHINA MUNTUUMO</b>
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**INSTRUCTIONS**

1. Answer **all** questions.
2. Please, ensure that your writing is **legible, neat** and **presentable**.
3. When answering questions you should be led by the allocation of marks.
4. Clearly, mark rough work as such or cross it out unambiguously in ink.
5. **QUESTION PAPER CONSISTS OF 6 PAGES** (Including this front page)

**SECTION A: THEORY****[MARKS: 40]**Question 1

[10 marks]

**Choose True or False**

	QUESTIONS	TRUE	FALSE
1	The oracle server executes subqueries first before the main query.	[ ]	[ ]
2	The UNION ALL operator returns all rows from multiple queries and eliminates any duplicate rows	[ ]	[ ]
3	The NATURAL JOIN and the USING clause are mutually exclusive	[ ]	[ ]
4	The ORDER BY clause can be placed in the subquery unless performing a Top-N analysis	[ ]	[ ]
5	SET operator expressions can have different numbers of columns in the SELECT clauses.	[ ]	[ ]
6	The oracle server executes subqueries first before the main query.	[ ]	[ ]
7	A CASE expression begins with the keyword CASE and ends with the keyword END	[ ]	[ ]
8	In order to update data in SQL, one must inform the DBMS which relation, columns, and rows are involved	[ ]	[ ]
9	An implicit commit occurs when a Data Definition Language statement is issued	[ ]	[ ]
10	% and ? perform wild card searches	[ ]	[ ]

Question 2

[2 marks]

What command would select a unique record from the table, show example?

Question 3

[4 marks]

Contrast between a primary key and foreign key?

Question 4

[4 marks]

Distinguish between VARCHAR2 and CHAR data types?

Question 5 [3 marks]

Mention and give examples of the types of operators available in SQL?

Question 6 [4 mark]

List the types of joins?

Question 7

What is the difference between DELETE and TRUNCATE statement in SQL? [2 marks]

Question 8

What is the difference between NULL value, zero and blank space? [4 marks]

Question 9

Which are the different case manipulation functions in SQL? [4 marks]

Question 10

Which are the different character-manipulation functions in SQL? Mention any 3 (5) [3 marks]

**SECTION B: PRACTICAL****[MARKS: 60]**

The tables that will be used for the following section are: Employees; Job\_history; Jobs; Departments; Countries; Locations; Regions;

Question 1 [6 marks]

Write an SQL statement to create a table Countries including column country\_id, country\_name and region\_id.

Question 2 [2 marks]

Write an SQL statement to confirm that your table Countries has been created.

Question 3 [4 marks]

Write an SQL statement to populate the table countries with the data of your choice. Add any 3 rows of data that will include your country's details.

Question 4 [2 marks]

Write an SQL statement to remove your country's details from the table.

Question 5 [2 marks]

Write an SQL statement to remove the table Countries.

Question 6 [3 marks]

Write an SQL statement to change the email and commission\_pct column of employees table with 'not available' and 0.10 commission for all the employees.

Question 7 [2 marks]

Write an SQL statement to add a column region\_id to the table locations.

Field	Type	Null	Key	Default	Extra
LOCATION_ID	decimal(4,0)	YES		NULL	
STREET_ADDRESS	varchar(40)	YES		NULL	
POSTAL_CODE	varchar(12)	YES		NULL	
CITY	varchar(30)	YES		NULL	
STATE_PROVINCE	varchar(25)	YES		NULL	
COUNTRY_ID	varchar(2)	YES		NULL	

Question 8 [1 mark]

Write an SQL statement to make all the changes permanent.

Question 9 [3 marks]

Write an SQL statement to find names of the employees starting with 'O'?

Question 10 [4 marks]

Write an SQL statement to display the combination of names (first\_name, last\_name) using alias name " Full Names", sort the data with the alias

Question 11

[2 marks]

Write an SQL statement using the countries and regions tables to retrieve the country name, region id and region name using Natural JOIN.

Question 12

[4 marks]

Write an SQL statement to retrieve the employees name and total salary of a year where yearly salary is more than \$10000.

Question 13

[3 marks]

Write an SQL statement that displays the first\_name, last\_name, salary, job\_id of all the employees who work in the same department as employee 140 and who are paid a salary higher then employee 143 and the first name of their name starts with an 'S'.

FIRST_NAME	LAST_NAME	SALARY	JOB_ID
Shanta	Vollman	6500	ST_MAN
Stephen	Stiles	3200	ST_CLERK
Sarah	Ball	4000	SH_CLERK
Samuel	McCain	3200	SH_CLERK

Question 14

[6 marks]

Write an SQL statement that displays the job ID, number of employees, sum of salary, and difference between highest salary and lowest salary of the employees of the job.

JOB ID	NUMBER OF EMPLOYEES	Total Salary	DIFFERENCE
IT_PROG	5	28800	4800
AC_MGR	1	12000	0
AC_ACCOUNT	1	8300	0
ST_MAN	5	36400	2400
PU_MAN	1	11000	0
AD_ASST	1	4400	0
AD_VP	2	34000	0
SH_CLERK	20	64300	1700
FI_ACCOUNT	5	39600	2100
FI_MGR	1	12000	0
PU_CLERK	5	13900	600
SA_MAN	5	61000	3500
MK_MAN	1	13000	0
PR_REP	1	10000	0
AD_PRES	1	24000	0
SA_REP	30	266261.35	5730.52
MK_REP	1	6000	0
ST_CLERK	20	55700	1500

Question 15

[4 marks]

Write an SQL statement that displays the department number, last name, and job IDs for every employee in the Public Relations department.

Question 16

[7 Marks]

Write an SQL statement that displays the last\_name, department\_id, department\_name and salary for the employees that have the surname 'King'.

Question 17

[5 Marks]

Write a SQL statement that displays the employee id and salary of all employees who earn more than the average salary. Sort the results in order of ascending salary.

<<<<<End of Exam Question paper>>>>