



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF COMPUTING AND INFORMATICS

DEPARTMENT OF SOFTWARE ENGINEERING

QUALIFICATION: BACHELOR OF GEOINFORMATION TECHNOLOGY; BACHELOR OF COMPUTER SCIENCE; BACHELOR OF INFORMATICS	
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COURSE CODE: DPG621S	COURSE NAME: DATABASE PROGRAMMING
SESSION: OCTOBER 2025	PAPER: SESSION 1
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS TO STUDENTS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Read all the questions carefully before answering.3. Number the answers clearly

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

Section 1

True/False Questions

(10 Marks, 1 mark each)

1. A stored procedure in SQL Server can accept input parameters to make it reusable.
2. A trigger can be fired manually by executing it with an EXEC statement.
3. You can use a WHILE loop inside a stored procedure to repeatedly execute statements.
4. The TRY...CATCH block in SQL Server allows you to handle errors in procedures or triggers.
5. BEGIN TRANSACTION must always be followed by a COMMIT or ROLLBACK to complete the transaction.
6. A procedure with parameters cannot contain variables.
7. An AFTER trigger executes before the DML statement modifies the table.
8. IF...ELSE constructs in a procedure allow conditional execution of SQL statements.
9. ROLLBACK inside a transaction will undo all changes made since the last COMMIT.
10. A stored procedure can return multiple result sets from SELECT statements.

Section 2 – Practical (90 Marks)

Use SQL Server Management Studio (SSMS) on your computer to complete this section.

Instructions:

Copy and paste your final code into the designated space for each question on eLearning. Ensure you also keep a copy of your work in Notepad as a backup in case of any technical issues. Use the scenario and table provided below to answer all the questions.

Scenario:

A Classroom Management System helps teachers ensure lessons run smoothly and track students' behavior. You are required to use stored procedures in SQL Server to manage, analyze, and report data for this system.

```
CREATE TABLE STUDENT_BEHAVIOR (  
    Student_ID INT PRIMARY KEY,  
    FirstName VARCHAR(50),  
    LastName VARCHAR(50),  
    GradeLevel VARCHAR(10),  
    BehaviorStatus VARCHAR(20),  
    DateReported DATE  
);
```

Question 1 [3 Marks]
Create a procedure `insert_sample_students` to insert two sample records into `STUDENT_BEHAVIOR`.

Question 2 [7 Marks]
Create a procedure `add_student_behavior` using variables to insert a new record.

Question 3 [7 Marks]
Create a procedure `add_student_behavior_param` using parameters. Invoke the procedure.

Question 4 [2 Marks]
Create a procedure `show_all_students` that retrieves all student records.

Question 5 [6 Marks]
Create a procedure `find_student_by_status` that takes a status as a parameter and retrieves matching students. Invoke the procedure.

Question 6 [5 Marks]
Create a procedure `update_behavior_status` that updates a student's behavior based on ID. Invoke the procedure.

Question 7 [9 Marks]
Create a procedure `conditional_update` that prints a message depending on the student's current status.

Question 8 [3 Marks]
Create a procedure `remove_student` to delete a student by ID.

Question 9 [3 Marks]
Create a procedure `count_by_status` that counts how many students have each behavior status.

Question 10 [4 Marks]
Create a procedure `get_recent_reports` to display students reported after a given date. Invoke the procedure.

Question 11 [4 Marks]
Create a procedure `transaction_behavior_update` that updates a record inside a transaction and rolls back.

Question 12 [4 Marks]
Create a procedure `display_top_student` that prints the name of the student with the smallest `Student_ID`.

Question 13 [7 Marks]
Create a procedure `cursor_display_students` that prints all student names using a cursor. Invoke the procedure.

Question 14 [4 Marks]
Create a procedure `find_students_by_grade` that accepts a grade level as input. Invoke the procedure.

Question 15 [3 Marks]
Create a procedure `delete_all_disruptive` that deletes all disruptive students.

Question 16 [4 Marks]
Create a procedure `display_summary` that prints total students and average grade level (numeric).

Question 17 [2 Marks]
Create a procedure `reset_status_all` to update all statuses to 'Pending Review'.

Question 18 [2 Marks]
Create a procedure `clear_table` to delete all rows from the table.

Question 19 [4 Marks]
Create a trigger `notify_behavior_insert` that fires after insertion into `STUDENT_BEHAVIOR` and prints "New student behavior recorded." Test the trigger.

Question 20 [7 Marks]
Create a procedure `safe_add_student` that inserts a student inside a TRY...CATCH block. Print success or error message. Invoke the procedure.

<<End of Examination Question Paper>>