



MODULE NAME:	MODULE CODE:
Database Intermediate	DATA6212
Database Intermediate	DATA6212d
Database Intermediate	DATA6212p

ASSESSMENT TYPE:	TEST (PAPER ONLY)
TOTAL MARK ALLOCATION:	60 MARKS
TOTAL HOURS:	1.5 HOURS (+10 minutes reading time)
INSTRUCTIONS: <ol style="list-style-type: none"> 1. Please adhere to all instructions in the assessment booklet. 2. Independent work is required. 3. Five minutes per hour of the assessment to a maximum of 15 minutes is dedicated to reading time before the start of the assessment. You may make notes on your question paper, but not in your answer sheet. Calculators may not be used during reading time. 4. You may not leave the assessment venue during reading time, or during the first hour or during the last 15 minutes of the assessment. 5. Ensure that your name is on all pieces of paper or books that you will be submitting. Submit all the pages of this assessment's question paper as well as your answer script. 6. Answer all the questions on the answer sheets or in answer booklets provided. The phrase 'END OF PAPER' will appear after the final set question of this assessment. 7. Remember to work at a steady pace so that you are able to complete the assessment within the allocated time. Use the mark allocation as a guideline as to how much time to spend on each section. 	
Additional instructions: <ol style="list-style-type: none"> 1. This is an OPEN BOOK assessment. 2. Calculators are allowed 3. For open book assessments the students may have open access to all resources inclusive of notes, books (hardcopy and e-books) and the internet. These resources may be accessed as hard copies or as electronic files on electronic devices. All electronic devices batteries must be fully charged before the assessment as no charging of devices will be permitted during the sitting of the assessment. The IIE and associated brands accept no liability for the loss or damage incurred to electronic devices used during open book assessments. 4. Answer All Questions . 5. Instructions for assessments including practical computer work: <ul style="list-style-type: none"> • Use of good programming practice and comments in code is compulsory. • Save your application in the location indicated by the administrator (e.g. the Z:\ drive or your local drive). • Create a folder as follows: use the module code and your own student number and create a folder with a folder name as per the format shown here: StudentNumber_ModuleCode_Test. Save all files (including any source code files, 	

*template files, design files, image files, text files, database files, etc.) within this folder. E.g. if your student number is 12345, and you are writing an examination for the module PROG121, create a folder named **12345_Prog121_Test** and use this throughout the session to save all of your files.*

- **Important:** *Upon completion of your assessment, you must save and close all your open files and double click the TestLog application on your desktop. You must follow the instructions carefully to ensure that the information about the files that you have submitted for this assessment has been logged on the network. Specify the location of your source code on your question paper.*

Learning Area: Verbal Communication

This Learning Area contains a set of relations that has been set up for W3 College. The database includes information about the Students, Courses, and Results held over the years. The relationships between the tables must be derived from the data in each of the tables. The tables and the information we require are as follows:

STUDENTS (Student Number, Student First name, Student Surname, Student DateOfBirth)

COURSES (Course Code, Course Name, Course Duration, Course Cost)

RESULTS (Student Number, Course Code, Semester, Date, Result Mark, Result Percentage)

The data is shown below:

STUDENTS

STUDENT_NO	STUDENT_FIRSTNAME	STUDENT_SURNAME	STUDENT_DATEOFBIRTH
S2014678	JARRED	JONES	1997/03/02 00:00
S2287632	TIFFANY	WOODS	1998/11/24 00:00
S2111342	ETHAN	GOLDMAN	1998/07/03 00:00
S2887345	BONGANI	PETLELE	1997/04/16 00:00
S2735462	NEO	MZIMANE	1996/05/02 00:00

COURSES

COURSE_CODE	COURSE_NAME	COURSE_DURATION	COURSE_COST
C3875	SOFTWARE ENGINEERING	3	2050.00
C3126	DATABASE DEVELOPMENT	3	NULL
C9874	PSYCHOLOGY	3	NULL
C7633	ACCOUNTING	4	2050.00
C8767	BUSINESS INFORMATION SYSTEMS	3	1800.00

RESULTS

STUDENT_N O	COURSE_COD E	SEMESTE R	DATE	RESULT_MAR K	RESULT_PER C
S2287632	C3875	1	2016/01/01 00:00	023	019
S2287632	C3875	2	2016/04/01 00:00	072	060
S2887345	C7633	1	2015/01/01 00:00	112	093
S2111342	C3126	3	2015/07/01 00:00	065	065
S2287632	C7633	1	2015/01/01 00:00	060	050

Create a database in SQL Server 2012™ named StudentNumber_Data6212_Test and execute the script file provided as a preload. The preload is named: DATA6212TaPreload.sql.

This script file will create all the necessary tables and populate the tables in this database with data.

Provide the appropriate SQL formulation and the result that would be produced for each query given below. Ensure to copy the SQL statements as well as the results into the MS Word document you have created. Save this file as “Database_Intermediate_Test_Student_Number”. Write the path and filename of this document on your exam paper.

Question 1**(Marks: 5)**

Write a query that will display a list of all the student first names and surnames.

Sample Results:

```

student_firstname    student_surname
-----
JARRED              JONES
TIFFANY             WOODS
ETHAN               GOLDMAN

```

BONGANI PETLELE
NEO MZIMANE

(5 row(s) affected)

Requirement	Mark	Examiner
Correct Select Statement used	2	
Correct Table Used	2	
Correct Result Obtained	1	
TOTAL	5	

Question 2

(Marks: 5)

Write a query that will display all the data in the results table for only the percentages between 60% and 70%

Sample Results:

STUDENT_NO	COURSE_CODE	SEMESTER	DATE	RESULT_MARK	RESULT_PERC
S2111342	C3126	3	2015-07-01 00:00:00	065	065
S2287632	C3875	2	2016-04-01 00:00:00	072	060

(2 row(s) affected)

Requirement	Mark	Examiner
Correct Select Statement used	2	
Correct Functions Used	2	
Correct Result Obtained	1	
TOTAL	5	

Question 3**(Marks: 5)**

Display all student's first name and surname who have no results.

Sample Results:

```

STUDENT_FIRSTNAME  STUDENT_SURNAME
-----
JARRED             JONES
NEO                MZIMANE
  
```

(2 row(s) affected)

Requirement	Mark	Examiner
Correct Select Statement used	1	
Correct Join Used	3	
Correct Result Obtained	1	
TOTAL	5	

Question 4**(Marks: 5)**

Display a list of courses that starts with the letters 'C3' in the course code.

Sample Results:

```

COURSE_CODE  COURSE_NAME                                COURSE_DURATION
COURSE_COST
-----
C3126        DATABASE DEVELOPMENT                        3              NULL
C3875        SOFTWARE ENGINEERING                      3             2050.00
  
```

(2 row(s) affected)

Requirement	Mark	Examiner
Correct Select Statement used	2	
Correct Operator Used and wildcarding	2	
Correct Result Obtained	1	
TOTAL	5	

Question 5**(Marks: 10)**

The college would like to know the name of the student who obtained the highest percentage.

Display the student's name, surname, the course name, and result percentage.

Sample Results:

```
course_name                                result_perc STUDENT_FIRSTNAME
STUDENT_SURNAME
```

```
-----
ACCOUNTING                                093          BONGANI
PETLELE
```

(1 row(s) affected)

Requirement	Mark	Examiner
Correct Select Statement used	2	
Correct Combination of Tables Used	3	
Correct Clause and Order	3	
Correct Result Obtained	2	
TOTAL	10	

Question 6**(Marks: 10)**

Write a query that will display the difference between a student's birth date with all the other student's birthdate. Show the difference in days, months, and years, each in its own column.

Hint: Consider making use of DATEDIFF (Transact-SQL)

Sample Results:

STUDENT_FIRSTNAME	STUDENT_FIRSTNAME	Age Diff in Days	Age Diff in Months	Age Diff in Years
-----	-----	-----	-----	-----

ETHAN	JARRED	488	16	1
TIFFANY	JARRED	632	20	1
NEO	JARRED	-304	-10	-1
BONGANI	JARRED	45	1	0
TIFFANY	ETHAN	144	4	0
NEO	ETHAN	-792	-26	-2
BONGANI	ETHAN	-443	-15	-1
NEO	TIFFANY	-936	-30	-2
BONGANI	TIFFANY	-587	-19	-1
BONGANI	NEO	349	11	1

(10 row(s) affected)

Requirement	Mark	Examiner
Correct Select Statement used	5	
Correct Join Used	2	
Correct Function used	2	
Correct Result Obtained	1	
TOTAL	10	

Question 7**(Marks: 10)**

You are required to calculate each student's age and to add an extra column called 'Age' in the Students table.

Hint: Consider making use of DATEDIFF (Transact-SQL)

Sample Results:

STUDENT_NO	STUDENT_FIRSTNAME	STUDENT_SURNAME	STUDENT_DATEOFBIRTH	age
S2014678	JARRED	JONES	1997-03-02 00:00:00	18
S2111342	ETHAN	GOLDMAN	1998-07-03 00:00:00	17
S2287632	TIFFANY	WOODS	1998-11-24 00:00:00	17
S2735462	NEO	MZIMANE	1996-05-02 00:00:00	19
S2887345	BONGANI	PETLELE	1997-04-16 00:00:00	18

(5 row(s) affected)

Requirement	Mark	Examiner
Correct manipulation of the table Statement used	2	
Correct insertion of Age Used	2	
Correct Insertion of Age values	4	
Correct Result Obtained	2	
TOTAL	10	

Question 8**(Marks: 10)**

The college would like you to generate a report of all students results. This report needs to show the students' name, course name and code, result date, result semester, result mark and percentage for every student who has results. Arrange the report so that the student surname and firstname are arranged in alphabetical order first, followed by the date and semester.

Sample Results:

```

STUDENT_FIRSTNAME  STUDENT_SURNAME  COURSE_CODE  COURSE_NAME  DATE  SEMESTER  RESULT_MARK
RESULT_PERC
-----
ETHAN              GOLDMAN    C3126  DATABASE DEVELOPMENT  2015-07-01 00:00:00  3  065
065
BONGANI           PETLELE    C7633  ACCOUNTING             2015-01-01 00:00:00  1  112
093
TIFFANY           WOODS      C7633  ACCOUNTING             2015-01-01 00:00:00  1  060
050
TIFFANY           WOODS      C3875  SOFTWARE ENGINEERING  2016-01-01 00:00:00  1  023
019
TIFFANY           WOODS      C3875  SOFTWARE ENGINEERING  2016-04-01 00:00:00  2  072
060

```

(5 row(s) affected)

Requirement	Mark	Examiner
Correct Select Statement used	2	
Correct Combination of Tables Used	4	
Correct Clause and Order	2	
Correct Result Obtained	2	
TOTAL	10	

END OF PAPER