MODULE NAME:	MODULE CODE:
ADVANCED DATABASES	ADDB7311

ASSESSMENT TYPE:	TEST (PAPER ONLY)
TOTAL MARK ALLOCATION:	60 MARKS
TOTAL HOURS:	1.5 HOURS (+10 minutes reading time)
STUDENT NAME:	
STUDENT NUMBER:	

INSTRUCTIONS:

1. *Please adhere to all instructions in the assessment booklet.*
2. *This is an open book assessment.*
3. *Independent work is required.*
4. *Save your work every five minutes.*
5. *Use Oracle 11gTM to complete the Questions.*
6. *Copy your answers (SQL and results) to a Microsoft WordTM document, saved as AdvancedDatabases_YourNameSurname_StudentNumber in your local folder.*
7. *Ensure that you number your answers correctly.*
8. *Complete all Questions.*
9. *Preloads folder contains two script files to assist you in creating the required database.*
10. *Hand in all the pages of this test script.*
11. *Answer all the Questions on the answer sheets provided. The phrase "END OF PAPER" will appear after the final set Question of this assessment.*

PRELOADS: **ADDB7311Ta1Preload.sql**
ADDB7311Ta2Preload.sql

INSTRUCTIONS

Copy and paste the SQL code and the screenshot of the results of the queries into a MS Word™ document. Save this file as "Advanced_Databases_Test_Student Number". Write the path and filename of this document on your test paper.

The following set of relations has been set up for the Nelson Mandela College of Technology. The database includes information about Students, Courses, Sections and Grade Reports. 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:

STUDENT (Student_Number, Student_Name, Major, Class, Bdate)
COURSE (Course_Number, Course_Name, Credit_Hours, Offering_Dept)
SECTION (Section_ID, Course_Number, Semester, Year, Instructor, Bldg, Room)
GRADE_REPORT (Section_ID, Student_Number, Grade)

A sample of the data is shown below:

STUDENT

STUDENT_NUMBER	STUDENT_NAME	MAJOR	CLASS	BDATE
2	Lineas	ENGL	1	15-Apr-80
3	Mary	COSC	4	16-Jul-78
8	Brenda	COSC	2	13-Aug-77
10	Richard	ENGL	1	13-May-80
13	Kelly	MATH	4	12-Aug-80
14	Lujack	COSC	1	12-Feb-77
15	Reva	MATH	2	10-Jun-80
17	Elainie	COSC	1	12-Aug-76
19	Harley	POLY	2	16-Apr-81
20	Donald	ACCT	4	15-Oct-77

COURSE

COURSE_NUMBER	COURSE_NAME	CREDIT_HOURS	OFFERING_DEPT
ACCT2020	ACCOUNTING I	3	ACCT
ACCT2220	ACCOUNTING II	3	ACCT
ACCT3333	MANAGERIAL FINANCE	3	ACCT
ACCT3464	ACCOUNTING INFO SYST	3	ACCT
COSC1310	INTRO TO COMPUTER SC	4	COSC
COSC2025	TURBO PASCAL	3	COSC
COSC2303	ADVANCED COBOL	3	COSC
COSC3320	DATA STRUCTURES	4	COSC
COSC3380	DATABASE	3	COSC
COSC3701	OPERATIONS RESEARCH	3	COSC

SECTION

SECTION_ID	COURSE_NUMBER	SEMESTER	YEAR	INSTRUCTOR	BLDG	ROOM
85	MATH2410	FALL	98	KING	36	123
86	MATH5501	FALL	98	EMERSON	36	123
87	ENGL3401	FALL	98	HILLARY	13	101
88	ENGL3520	FALL	99	HILLARY	13	101
89	ENGL3520	SPRING	99	HILLARY	13	101
90	COSC3380	SPRING	99	HARDESTY	79	179
91	COSC3701	FALL	98		79	179
92	COSC1310	FALL	98	ANDERSON	79	179
93	COSC1310	SPRING	99	RAFAELT	79	179
94	ACCT3464	FALL	98	RODRIGUEZ	74	

GRADE_REPORT

STUDENT_NUMBER	SECTION_ID	GRADE
2	85	D
2	102	B
2	126	B
2	127	A
2	145	B
3	85	A
3	87	B
3	90	B
3	91	B
3	92	B

INSTRUCTIONS (CONTINUES)

Connect to SQL*PLUS with sysdba privileges and execute the supplied preloads to create the required database schema. Execute the **ADDB7311Ta1Preload.sql** preload first which will create and log in the required user. Secondly execute the **ADDB7311Ta2Preload.sql** preload which will create and populate the tables required for this test.

If you would prefer to use SQL Developer to complete the test make a connection called ADDB_Test_1 using the following connection options:

Username: ADDB_7311_Test_1

Password: Password123

*Note if your SID is not xe, please alter this in the preload and your connection string.

Alternatively, create a connection to your Oracle 11g ™ database by means of SQL Developer using the site specific username/password.

You are now ready to begin your test. Please ensure to copy the SQL and PL/SQL statements as well as the results into the MS Word document you have created.

Question 1 (Marks: 5)

Write a query that will display a list of the instructors and the total number of 'A' grades their students have achieved. Your result should show the following fields: Instructor, Number of 'A's. Sort your result by the instructor who has the highest number of 'A's.

Question 2 (Marks: 10)

Create a new table called 'Prerequisite' that will be able to store the data represented below. The Prereq_ID primary key field uses a sequence to generate its values. This field should increment the value by 1, have a starting and minimum value of 100, no maximum number, no cycle, and a cache size of 10. Insert the two rows of data into this table.

PREREQUISITE

PREREQ_ID	COURSE_NUMBER	PREREQ
100	ACCT3333	ACCT2220
101	COSC3320	COSC1310

Question 3 (Marks: 10)

Lauren Mannering has been hired as a user. You need to create a user named LMannering that has the password Password1. Lauren will need to connect to a database, as well as select any table privileges. Create the SQL code to accomplish this.

Question 4 (Marks: 10)

The Head of Faculty has decided that the credit hours for certain offering departments needs to change. He has asked you to write a program so that all 'MATH' offering departments will have their credit hours increased by 1.

Question 5 (Marks: 10)

Create a trigger called SClass that sends an error message to the user when inserting a new student that has a class greater than 4. Write a line of code that will disable that trigger

Question 6 (Marks: 5)

Write a PL/SQL program that outputs the message '<3 I LOVE PL/SQL <3' to the user.

Quesiton 7 (Marks: 10)

Write a PL/SQL program that calculates and outputs the age of a student who was born in 1992. Use appropriate variables and comments in your code.

END OF PAPER