THE INDEPENDENT INSTITUTE OF EDUCATION

MODULE NAME:	MODULE CODE:
ADVANCED DATABASES	ADDB7311

ASSESSMENT TYPE:	TEST (PAPER AND MEMORANDUM)
TOTAL MARK ALLOCATION:	60 MARKS
TOTAL HOURS:	1.5 HOURS (+10 minutes reading time)

INSTRUCTIONS:

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:

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:*
   - *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 test for the module ADDB7311, create a folder named **12345_ADDB7311_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 ExamLog 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.*

The following set of relations has been set up for a local coffee cafe. At present the database is small and only includes information about products, suppliers and sales. The relationships between the tables must be derived from the data in each of the tables. The tables and the information required are as follows:

PRODUCT(PRODUCT_ID, PRODUCT_NAME, PRODUCT_PRICE)
SUPPLIER(SUPPLIER_ID, SUPPLIER_NAME, SUPPLIER_EMAIL)
SALES(SALES_ID, SALES_DATE, PRODUCT_ID, SUPPLIER_ID)

Sample Data is shown below:

PRODUCT

PRODUCT_ID	PRODUCT_NAME	PRODUCT_PRICE
1001	Moca Java	R 30
1002	Americano	R 28
1003	Cappuccino	R 19
1004	Doppio	R 17
1005	Espresso Romano	R 25

SUPPLIER

SUPPLIER _ID	SUPPLIER _NAME	SUPPLIER _EMAIL
SUP_101	Coffee Incorporated	ci@isat.co.za
SUP_102	Java Heaven	javaheaven@ymail.com
SUP_103	Columbia Dream	dream_col@isat.co.za

SALES

SALES_ID	SALES_DATE	PRODUCT_ID	SUPPLIER_ID
1	15 July 2017	1002	SUP_101
2	15 July 2017	1002	SUP_102
3	27 August 2017	1001	SUP_103
4	30 August 2017	1005	SUP_101
5	30 August 2017	1003	SUP_102

Question 1 **(Marks: 10)**

You will need to create the tables on page 3 to complete the test. Please create the tables and populate them using SQL Developer or SQL*Plus.

Question 2 **(Marks: 6)**

Create an SQL query that will display the product name and price. In your query, include the VAT amount of 14%, and the price including VAT.

Sample Results

PRODUCT_NAME	PRICE	VAT	TOTAL
Mocha Java	R 30	R 4.20	R 34.20
Americano	R 28	R 3.92	R 31.92
Cappuccino	R 19	R 2.66	R 21.66
Doppio	R 17	R 2.38	R 19.38
Espresso Romano	R 25	R 3.50	R 28.50

Mark Allocation

Requirement	Mark	Examiner
Correct select statement used	3	
Correct tables used	2	
Correct output	1	
TOTAL	6	

Question 3 **(Marks: 8)**

Management of the café require the name of the most popular coffee. Create an SQL query that will display the coffee product which has been sold the most.

Sample Results

PRODUCT_NAME	MAX_SALES
Americano	2

Mark Allocation

Requirement	Mark	Examiner
Correct select statement used	4	
Correct tables used	2	
Correct output	2	
TOTAL	8	

Question 4 **(Marks: 8)**

Create a PL/SQL query to display the product name, supplier name and the sales date for Sales ID Number 3.

Sample Results

PRODUCT NAME: Mocha Java
SUPPLIER NAME: Columbia Dream
SALES DATE: 27/AUG/17

Mark Allocation

Requirement	Mark	Examiner
Variables declared correctly	2	
Correct select statement used	2	
Correct tables used	2	
Correct output	2	
TOTAL	8	

Question 5 (Marks: 10)

Management of the Coffee Incorporated Supplier are enforcing a temporary price increase of 10% on their products. Create a PL/SQL query to display the product name and price with the applied increase.

Sample Results

Americano Price: R 30.80

Espresso Romano Price: R 27.50

Mark Allocation

Requirement	Mark	Examiner
Variables declared correctly	2	
Correct select statement used	2	
Correct tables used	2	
Correct decision statement used	2	
Correct output	2	
TOTAL	10	

Question 6 **(Marks: 8)**

Create a view called Product_Sales that will display the product names and the amount of sales that have been sold between 1 July 2017 and 28 August 2017.

Sample Results

PRODUCT_NAME	SALES DATE	SALES
Americano	15/JUL/17	2
Mocha Java	27/AUG/17	1

Mark Allocation

Requirement	Mark	Examiner
View created correctly	2	
Correct select statement used	2	
Correct tables used	2	
Correct output	2	
TOTAL	8	

Question 7 **(Marks: 10)**

Create a PL/SQL query to display the products that have a product price greater than the average price of all the products.

Sample Results

Mocha Java
Price: R 30

Americano
Price: R 28

Espresso Romano
Price: R 25

Mark Allocation

Requirement	Mark	Examiner
Variables declared correctly	2	
Correct select statement used	3	
Correct tables used	2	
Correct output	3	
TOTAL	10	

END OF PAPER