MODULE NAME:	MODULE CODE:
ADVANCED DATABASES	ADDB7311

ASSESSMENT TYPE:	EXAMINATION (PAPER ONLY)
TOTAL MARK ALLOCATION:	70 MARKS
TOTAL HOURS:	2 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 not 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. *This assessment has One Section . You are required to answer All of these sections*
5. *Answer All Questions .*
6. *Show all calculations, where applicable (marks may be awarded for this).*
7. *Instructions for assessments including practical computer work:*
   - *Use of good programming practice and comments in code is compulsory.*
   - *Save your code 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_Exam**. 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_Exam** 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.*

Create a database in Oracle 11g named ADDB7311Exam_StudentNumber and execute the preloaded SQL code using either SQL Developer™ or SQL*Plus™ to create the database schema.

Copy and paste your queries into a MS Word™ document. Save this file as "Advanced_Databases_Exam_Student_Number". Write the path and filename of this document on your exam paper.

PRELOADS: ADDB7311Ea_Preload.sql

The following set of relations has been set up for the XTREME GEAR SA superstore. The database includes information about employees, customers, suppliers, products and sales. 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:

EMPLOYEE (EmpID, First_Name, Surname, Contact_Num, Email, Address)
CUSTOMER (CustomerID, First_Name, Surname, Contact_Num, Address, Bank)
SUPPLIER(SupplierID, SupplierName, Contact_Num,, Rating)
PRODUCT (ProductID, ProductName, Price, Warranty, SupplierID)
SALES (SaleID, SaleDate, SaleQty, EmpID, CustomerID)
PRODUCT_SALES(SaleID, ProductID)

Sample Data is shown below:

EMPLOYEE

EmpID	First_Name	Surname	Contact_Num	Email	Address
101	Cameron	Willis	0843569851	cw@isat.co.za	11 Main rd
102	Jessie	Wait	0763698521	jwait@imail.com	27 Water way
103	Andre	Gumede	0786598521	agum@mcare.co.za	15 Cape st
104	Marie	Du Preez	0796369857	mduppie@isat.co.za	20 Long rd
105	Eric	Jones	0826598741	ejones@nrom.co.za	3 Temperance st

CUSTOMER

CustomerID	First_Name	Surname	Contact_Num	Address	Bank
A1001	Asavela	Bitterhout	0769856895	15 Table rd	ABSA
A1002	Henry	James	0742598657	28 Sea Side rd	NEDBANK
A1003	Joe	Bloggs	0863256982	19 Upper End	FNB
A1004	Clark	Smith	0785659857	27 South end	ABSA
A1005	Jabu	Xolani	0712369571	12 Main rd	FNB

SUPPLIER

SupplierID	SupplierName	Contact_Num	Rating
751	Adventure Gear	0113256958	7
752	Ultra Outdoor	0212569857	5
753	Xtreme Gear	0310524589	9
754	Sky and Surf Gear	0412365987	2

PRODUCT

ProductID	ProductName	Price	Warranty	SupplierID
Prod111	X500 Kanoe	7189.55	2 year	751
Prod112	Z200 Goggles	1295.75	1 year	754
Prod113	K99 GPS Device	2700.21	2 years	753
Prod114	L55 Moutain Harness	800.25	1 year	752
Prod115	Aqua Extreme Watch	3050.79	2 years	751

SALES

SaleID	SaleDate	SaleQty	EmpID	CustomerID
1010	15 October 2016	10	101	A1005
1011	18 October 2016	3	103	A1002
1012	20 October 2016	15	101	A1004
1013	22 October 2016	21	101	A1001

PRODUCT_SALES

SaleID	ProductID
1010	Prod111
1011	Prod112
1011	Prod111
1012	Prod115
1013	Prod112

Question 1 **(Marks: 6)**

Create a SQL query to display the Customer ID, Employee ID, Product ID and the Sale Date of the sale transactions that have a product price of less than R 5000.

Sample Results

CUSTOMER ID	EMPLOYEE ID	PRODUCT ID	SALE DATE
A1001	101	Prod112	22/OCT/16
A1002	103	Prod112	18/OCT/16
A1004	101	Prod115	20/OCT/16

Requirement	Mark	Examiner
Correct Select Statement used	2	
Correct Tables Used	2	
Correct Result Obtained	2	
TOTAL	6	

Question 2 (Marks: 8)

Create a PL/SQL query that will display the Customer Name, Product Name and the Product Price.

In your query only display the products that have a supplier rating of 7.

Sample Results

anonymous block completed

CUSTOMER: Henry, James

PRODUCT: X500 Kanoe

PRICE: R 7189.55

SUPPLIER RATING: 7

CUSTOMER: Jabu, Xolani

PRODUCT: X500 Kanoe

PRICE: R 7189.55

SUPPLIER RATING: 7

CUSTOMER: Clark, Smith

PRODUCT: Aqua Extreme Watch

PRICE: R 3 050.79

SUPPLIER RATING: 7

Requirement	Mark	Examiner
Correct variables created	1	
Correct select statement used	2	
Correct use of cursor	2	
Correct use of loop	2	
Correct output	1	
Total	8	

Question 3 (Marks: 10)

The management of XTREME GEAR SA require a report on the best performing products. Create a PL/SQL query that will display the product names that have a total sales greater than the average sale amount.

Sample Results

anonymous block completed

PRODUCT NAME: X500 Kanoe

TOTAL SALES: R 71 895.5

PRODUCT NAME: Aqua Extreme Watch

TOTAL SALES: R 45 761.85

Requirement	Mark	Examiner
Correct variables created	2	
Correct select statement used	2	
Correct use of cursor	2	
Correct use of loop	2	
Correct output	2	
Total	10	

Question 4 (Marks: 10)

Create a view called Overall_Report that will display the Employee Name, Customer Name, Product Name, Supplier and the Sale Date. In your query only display the sales that occurred on the 22 October 2016.

Sample Results

EMPLOYEE	CUSTOMER	PRODUCT	SUPPLIER	SALE_DATE
Cameron, Willis	Asavela, Bitterhout	Z200 Goggles	Sky and Surf Gear	22/OCT/16

Requirement	Mark	Examiner
Create or replace view used	2	
Correct select statement used	2	
Correct tables used	2	
Correct code to run the view	2	
Correct output	2	
Total	10	

Question 5 **(Marks: 12)**

Create a procedure called Sale_Count that will receive an Employee ID as an input parameter and return the count of the sales made as an output. Your solution must also determine if the performance of the employee is good or poor. If the sale count is greater than or equal to 3 then the performance is considered good, otherwise the performance is poor. In your query use Employee ID 101 as the input parameter and supply the code to run the procedure.

Sample Results

anonymous block completed

Sale count for employee is 3

Performance: Good

Requirement	Mark	Examiner
Create or replace procedure used	2	
Correct variables created	2	
Correct select statement used	3	
Correct code to run procedure	3	
Correct output	2	
Total	12	

Question 6 **(Marks: 12)**

Create a function called Lowest_Sales that will display the product name and the lowest sale transaction amount. In your answer also supply the code to run the function.

Sample Results

LOWEST_SALES
Z200 Goggles - R 3887.25

Requirement	Mark	Examiner
Create or replace function used	2	
Correct variables created	2	
Correct select statement used	2	
Correct code to run function	2	
Correct use of exception handling	2	
Correct output	2	
Total	12	

Question 7 **(Marks: 12)**

Create a trigger called SupplierEntry that will restrict a user from entering in a Supplier Rating that is less than or equal to zero. In your query also provide a suitable message and the insert statement to test the trigger.

Requirement	Mark	Examiner
Create or replace trigger used	2	
Correct use of after insert or update used	2	
Correct variables created	2	
Correct selection statement used	2	
Correct code to display restriction message	2	
Correct code to test the trigger	2	
Total	12	

END OF PAPER