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)
STUDENT NAME:	
STUDENT NUMBER:	

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. *Answer all questions.*
4. *This is the open book section of the assessment. Once you have completed the closed book section of the assessment, submit it and collect the open book section, together with the allowed sources of information.*
5. *Instructions for assessments including practical computer work:*
   - *This is an open book assessment – You may use your prescribed textbooks and help files that are present on the computer.*
   - *Save your work every five (5) minutes.*
   - *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_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.*
   - *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: ADDB7311E1_Preload.sql

The following set of relations has been set up for the PRODUCTS FOR 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, Comments)
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	Shane	Willis	0843569851	pw@isat.co.za	15 Main rd
102	Patrick	Morgan	0763698521	smore@imail.com	27 Water way
103	Andre	Gumede	0786598521	gg@mcare.co.za	19 Cape st
104	Sam	Du Preez	0796369857	duppie@isat.co.za	20 Long rd
105	Eric	Smith	0826598741	bsmith@nrom.co.za	5 Temperance st

CUSTOMER

CustomerID	First_Name	Surname	Contact_Num	Address	Comments
A91	Bob	Watson	0769856895	15 Table rd	Late payer
A92	Henry	Botha	0742598657	28 Sea Side rd	Handed over
A93	Joe	Daniels	0863256982	19 Upper End	Up to date
A94	Clark	Smith	0785659857	27 South end	Late payer
A95	Jabu	Jones	0712369571	12 Main rd	Later payer

SUPPLIER

SupplierID	SupplierName	Contact_Num	Rating
751	Xtreme Parts	0113256958	7
752	Ultra share	0212569857	5
753	Ultra ideas	0310524589	9
754	Robo Gear	0412365987	2
755	Modern concepts	0512569855	10

PRODUCT

ProductID	ProductName	Price	Warranty	SupplierID
Prod111	GT958 Display Card	2189.55	1 year	751
Prod112	X700 Display Card	1295.75	1 year	755
Prod113	K99 Solid State Drive	3700.21	2 years	753
Prod114	42 Inch LED	3100.25	1 year	752
Prod115	60 Inch LCD	8050.79	2 years	751

SALES

SaleID	SaleDate	SaleQty	EmpID	CustomerID
1010	15 October 2015	3	101	A95
1011	18 October 2015	1	103	A92
1012	20 October 2015	5	101	A94
1013	22 October 2015	2	101	A91
1014	23 October 2015	7	102	A95

PRODUCT_SALES

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

Question 1 **(Marks: 10)**

Create a SQL query to display the Customer ID, Employee ID, Product ID and the Sale Date of the sale transactions.

Sample Results

CUSTOMER ID	EMP ID	PRODUCT ID	SALE DATE
A95	101	Prod111	15/OCT/15
A92	103	Prod112	18/OCT/15
A92	103	Prod111	18/OCT/15
A94	101	Prod115	20/OCT/15
A91	101	Prod112	22/OCT/15

Requirement	Mark	Examiner
Correct Select Statement used	4	
Correct Tables Used	4	
Correct Result Obtained	2	
TOTAL	10	

Question 2 (Marks: 10)

Create a PL/SQL query that will display the Supplier Name, Product Name and the Price for any product that has a price greater or equal to R 5000.

Sample Results

anonymous block completed

SUPPLIER: Xtreme Parts

PRODUCT: 60 Inch LCD

PRICE: R 8050.79

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 3 (Marks: 10)

The management of PRODUCTS FOR SA require a report on the poor performing sales employees. Create a PL/SQL query that will display the Employees that have sold 2 or less products. You are not required to display the employees who have not made any sales.

Sample Results

anonymous block completed

EMPLOYEE: Shane, Willis

SALE QTY: 2

EMPLOYEE: Andre, Gumede

SALE QTY: 1

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 Supplier_Warranty that will display the Supplier Name and Product Supplied. In your query only display the results for Products with a two (2) year warranty and include the code to run the view.

Sample Results

SUPPLIER_NAME	PRODUCT_NAME	WARRANTY
Xtreme Parts	60 Inch LCD	2 years
Ultra ideas	K99 Solid State Drive	2 years

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: 10)

Create a procedure called Sale_Value that will receive a Product ID as an input parameter and return the total sales value as an output. In your query use Product ID 'Prod115' as the input parameter and supply the code to run the procedure.

Sample Results

anonymous block completed

Total Sale: R 40253.95

Requirement	Mark	Examiner
Create or replace procedure used	2	
Correct variables created	2	
Correct select statement used	2	
Correct code to run procedure	2	
Correct output	2	
Total	10	

Question 6 **(Marks: 10)**

Create a function called Supplier_Rating that will receive a rating number as an input parameter and return the Supplier Name. In your query use a rating of 7 as the input parameter and supply the code to run the function.

Sample Results

SUPPLIER_RATING(7)
XTREME PARTS

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	1	
Correct output	1	
Total	10	

Question 7 **(Marks: 10)**

Create a trigger called ProductEntry that will restrict a user from entering in a Product Price 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	1	
Correct code to test the trigger	1	
Total	10	

END OF PAPER