UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge International Diploma in ICT
Advanced Level

RELATIONAL DATABASES   **5205/A**

Optional Module: Practical Assessment

2005

**1 hour
and 15 minutes reading time**

No Additional Materials are required

READ THESE INSTRUCTIONS FIRST

Candidates are permitted **15 minutes** reading time before attempting the paper.

Make sure that your name, centre number and candidate number are shown on each printout that you are asked to produce.

Carry out **every** instruction in each task.

Tasks are numbered on the left hand side of the page, so that you can see what to do, step by step. On the right hand side of the page for each task, you will find a box which you can tick (✓) when you have completed the task; this checklist will help you to track your progress through the assessment.

Before each printout you should proof-read the document to make sure that you have followed all instructions correctly.

At the end of the assignment put **all** your printouts into the Assessment Record Folder.

This document consists of **4** printed pages.

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You work for the transport department in the City of Tawara Beach. You are going to develop a database for recording drivers who have applied for a reduction in the congestion charge. The reduction is based on either the area in which they live or the kind of vehicle they drive.

          ✓

1   Using a suitable software package, create a new database.   ☐   **1.1.1**

2   Import the files **ARDA5VEH.CSV, ARDA5ZIP.CSV** and **ARDA5FUL.CSV**   ☐   **1.2.1** **1.2.2** **1.3.1**

You will need to use the following information to create the tables:

ARDA5VEH

Field Name	Type
Registration	Text
Owner	Text
Fuel	Integer
ZipCode	Integer
Make	Text

ARDA5ZIP

Field Name	Type
Code	Integer
Area	Text
AreaDisc	Number; 2 decimal places

ARDA5FUL

Field Name	Type
FuelCode	Integer
Description	Text
FuelDisc	Number; 2 decimal places

🔑 denotes primary key

3   Establish the following One-to-Many Relationships: ☐   **2.1.1** **2.1.2**
     ARDA5FUL.FuelCode   1----∞   *ARDA5VEH.Fuel*
     ARDA5ZIP.Code   1----∞   *ARDA5VEH.ZipCode*

4   Select details only of the vehicles using **Petrol** and based in the **Beachhead** area.   ☐   **3.1.2**

You will need to use the *Description* and *Area* fields to find this information.

5   For each vehicle, show only the *Registration*, *Owner, ZipCode* and *Make*.   ☐   **4.1.1**

6   Sort first in ascending order of *ZipCode* and then in ascending order of *Make.*   ☐   **3.2.2**

7   Save and print this list.   ☐   **5.1.1**

Make sure that your name and today's date are shown on the printout.

You are going to prepare a report which shows details of all the Ford cars.

✓

8 Select from all the records, only the **Ford** cars. ☐ **3.1.1**

9 Prepare and print a report showing this information: ☐ **4.1.1**
- Include in the header: **City of Tawara beach** and today's date
- In the detail rows show: *Registration*, *Owner*, *Area, AreaDisc* (formatted to 2 decimal places) and the total discount for this vehicle (*AreaDisc* + *FuelDisc*) (formatted to 2 decimal places)
- Group the data by *Fuel*
- In each group heading show:
  - *Description*,
  - *FuelDisc* (formatted to 2 decimal places)
- In each group footer show:
  - The sum of area discount for all vehicles in the group (formatted to 2 decimal places)
- Include your name at the bottom of the report

4.1.2

4.1.3

5.1.1

Your report may look something like this:

City of Tawara beach		30 December 2004		
Petrol	**0.00**			
Registration	**Owner**	**Area**	**Area Disc**	**Total Disc**
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
			99.99	
Diesel	**0.50**			
Registration	**Owner**	**Area**	**Area Disc**	**Total Disc**
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
			99.99	
LPG	**1.25**			
Registration	**Owner**	**Area**	**Area Disc**	**Total Disc**
999AAA	J Smith	Stella	9.99	9.99
999AAA	J Smith	Stella	9.99	9.99
			99.99	
John Smith				

You are now going to prepare a report which summarises some information about the number of vehicles in each area using LPG as a fuel.

10 Select from all the records, only details of the cars which use LPG. Include only the fields *Make*, *Description* and *Area*   ☐   **3.1.1**
4.1.1

11 Using this data, create a cross-tab (pivot table) which shows *Make* as row labels and *Area* as column headings. Show the numbers of each car make per area.   ☐   **4.2.1**

12 Add the title **Summary – LPG cars per area** to the report. Include your name and today's date at the end of the report and then print it. The first 3 rows of the report will look something like this: ☐   **5.1.1**

Summary – LPG cars per area

Make	BeachHead	City Centre	Deering	Drury	Hancock	Jaffrey	Squantum
Citroen	2		1	1	1		
Ford					1	1	

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RELATIONAL DATABASES   **5205/B**

Optional Module: Practical Assessment

2005

**1 hour
and 15 minutes reading time**

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You are working in the transport department at the City of Tawara Beach and you are going to use a database to analyse some of the data concerning car sharing.

		✓	

1 Using a suitable software package, create a new database. ☐ **1.1.1**

2 Import the files **ARDB5PC1.CSV, ARDB5VEH.CSV, ARDB5PC2.CSV** and ☐ **1.2.1**
ARDB5LIF.CSV **1.2.2**
1.3.1

You will need to use the following information to create the tables:

ARDB5PC1	
Field Name	**Type**
🔑 PostCode2	Number
StartCityZone	Number

ARDB5VEH	
Field Name	**Type**
🔑 Registration	Text
Owner	Text
StartPostCode	Number
EndPostCode	Number

ARDB5PC2	
Field Name	**Type**
🔑 PostCode	Number
EndCityZone	Number

ARDB5LIF	
Field Name	**Type**
🔑 Code	Number
Registration	Text
Date	Date
Passengers	Number

🔑 denotes the primary key.

3 Establish the following One-to-Many Relationships: ☐ **2.1.1**
Ardb5PC1.PostCode 1----∞ *ardb5veh.StartPostCode* **2.1.2**
Ardb5PC2.PostCode2 1----∞ *ardb5veh.EndPostCode*
Ardb5Veh.Registration 1----∞ *Ardb5lif.registration*

4 Select only the lifts which took place on *Date* **3 Jan 2005** ☐ **3.1.2**

5 Show only the fields *Date*, *Registration, StartCityZone*, *EndCityZone* and ☐ **4.1.1**
Passengers

6 Sort this data first into ascending order of *StartCityZone* and then in ascending ☐ **3.2.2**
order of *EndCityZone*

The first 2 rows are shown below.

Date	Registration	StartCityZone	EndCityZone	Passengers
03/01/2005	600VDG	2	3	1
03/01/2005	134APQ	2	3	1

7 Save and print this list. ☐ **5.1.1**

Make sure that your name and today's date are shown on the printout.

You are going to prepare a report which shows details of all the lifts which started in city zone 4 and had more than 1 passenger.

			✓	
8	Select from all the records, only the lifts for **3 Jan 2005**, started in city zone **4** and which had more than **1** passenger*.*		☐	**3.1.2**

9 Prepare and print a report showing this information: ☐ **4.1.1**
- The header should include **Tawara Beach – Car Sharing** and *StartCityZone*
- The detail rows should show *Registration*, *Date* and *Passengers*
- Group the data by *EndCityZone* and for each group show the total number of passengers carried
- At the end of the report show your name and today's date

4.1.2

4.1.3

5.1.1

Your report may look something like this:

```
Tawara Beach – Car Sharing
Start City Zone: 4

End City Zone: 1
999AAA            1 Jan 2005          9
                                                    Total Passengers      99
End City Zone:  2
999AAA            1 Jan 2005          9
                                                    Total Passengers      99
End City Zone: 3
999AAA            1 Jan 2005          9
999AAA            1 Jan 2005          9
                                                    Total Passengers      99
End City Zone: 4
999AAA            1 Jan 2005          9
999AAA            1 Jan 2005          9
                                                    Total Passengers      99
John Smith    1 January 2005
```

You are now going to prepare a report which summarises some information about the lifts.

10	Select from all the records, only the cars where *Date* is **4 Jan 2005**	☐	**4.1.1**
	Include only the fields *StartCityZone, EndCityZone* and Passengers		
11	Create a cross-tab (pivot table) which shows *StartCityZone* as row labels and *EndCityZone* as column headings. Show the numbers of *passengers* travelling between each zone.	☐	**4.2.1**b

12 Print out this cross-tab.   ✓ **5.1.1**

     Make sure that your name and today's date are shown on the printout.

The pivot table should look something like this:

Start	2	3	4
2	9	9	9
3		9	
4	9	9	9

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