

Pearson Edexcel International Advanced Level

Sample assessment material for first teaching
September 2018

Time: 3 hours

Paper Reference **WIT14/01**

Information Technology

International Advanced Level

Unit 4

You must have:

The files Dog Walking.accdb, Staff.xlsx, Candidate evidence template.docx

Instructions

- Answer **all** questions using the template provided.
- Paste your screen prints into the appropriate places in the template.
- Type your responses to questions 1(c) and 5 in the appropriate places in the template.

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets
– use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Instructions

A template for your evidence is provided in your examination area.

Open the template and type in your centre name, centre number, candidate name and candidate number in the boxes provided.

Save the template using a filename in this format.

[Centre number]_[candidate number]_[surname]_[first letter of first name].

For example, 12345_9212_Smith_J

The screen prints you produce should be copied into the appropriate places in this template. Remember to save the template regularly.

Responses to question 1(c) and question 5 must be typed in the appropriate place in the template.

Scenario

Some people own pet dogs. Sometimes they need someone else to exercise their dogs whilst they are at work. These people are dog walkers.

Mobin owns a company that provides dog walkers. The dog walkers visit the homes of people who want their dogs taken out for a walk.

Owners can request visits between:

- one and five days a week
- one and three times a day.

The walk durations depend on the number of visits each day.

If the owner requests:

- one visit each day, then the walk duration is 60 minutes
- two visits each day, then each walk duration is 30 minutes
- three visits each day, then each walk duration is 20 minutes.

The total walk duration is always 60 minutes each day.

Staff are employed on either a full-time or a part-time basis and work five days a week.

Full-time staff work 40 hours a week.

Part-time staff work from 22 to 32 hours a week.

All staff take 20 days holiday a year.

Mobin keeps a list of owners in a single table within the database Dog Walking.

Mobin uses the Staff spreadsheet to keep a record of the staff and the owners of the dogs they walk.

Mobin is finding it increasingly difficult to keep track of:

- the dogs and their owners
- the staff who are walking the dogs
- staff holidays.

He wants a solution that will allow him to manage the system more effectively and reduce the number of errors in record keeping.

The screen prints you produce should be copied into the appropriate places in the template. Remember to save the template regularly.

Responses to question 1(c) and question 5 must be typed in the appropriate place in the template.

The Dog Walking database and the Staff spreadsheet file are provided in your examination area. Study these files carefully.

1 (a) The owner table in the dog-walking database needs to be improved.

(i) The postcode field in this database will use this format:

2 uppercase letters
1 digit
1 space
1 digit
2 uppercase letters.

Set up a format check so that only postcodes in this format are accepted.

Screenprint the table in **Design** view, making sure that the format check can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(1)

(ii) Set up a range check on the field NumberWalksPerDay so that only 1, 2 or 3 dog walks per day are accepted.

Screenprint the table in **Design** view, making sure that the range check can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(3)

(b) Mobin needs a form to enter data about an owner who has asked to use the dog-walking service.

The form must:

- open ready for data entry
- allow data entry of:
 - owner details
 - dog details
 - walk details
- ensure the automatic generation of the walk duration using these rules:
 - 1 walk per day is a 60 minute walk
 - 2 walks per day is 30 minutes each walk
 - 3 walks per day is 20 minutes each walk
- provide a button to save the entered and generated data in the table.

Create a user-friendly data entry form for the owner table that will allow Mobin to add new records to the database.

Screenprint your form in **Form** view.

Paste the screen print into the appropriate place in the template.

Produce screen prints in **Design** view to show any macros, code, queries and/or properties you have used. Ensure that all fields and details can be clearly seen.

Paste the screen prints into the appropriate place in the template.

Re-save your template.

(9)

(c) A data entry form should include user interface components that support users.

Assess the extent to which the data entry form you created in question 1(b) does this.

Type your response in the appropriate place in the template.

Do not include any screen prints.

Re-save your template.

(9)

(d) Mobin currently uses the staff spreadsheet to keep a record of the staff and the dog walks for which they are responsible.

Develop the dog-walking database to add this functionality. You must create an efficient data structure that minimises data duplication, uses correct data types and primary keys, and enforces referential integrity.

Produce a screen print that clearly shows the relationships including table names, field names, and primary keys.

Produce screen prints showing the field names and data types in the tables **you** have created.

Paste the screen prints into the appropriate places in the template.

Re-save your template.

(9)

(e) Mobin wants to ensure that the data in the database is valid.

You can assume that, for each field, the sample data provided in the staff spreadsheet contains all the options that should be considered.

Apply validation to the data in the tables **you** have created.

Produce a screen print in **Design** view of:

- **one** length check
- **one** value lookup
- **one** table lookup.

Paste the screen prints into the appropriate places in the template.

Make sure the validation can be clearly seen.

Re-save your template.

(4)

(f) Import the data from the staff spreadsheet into the dog-walking database.

Produce screen prints of the tables **you** have created showing at least five records and the full record count. (If the fields are too wide to fit on one page, truncated data is allowed.)

Paste the screen prints into the appropriate places in the template.

Re-save your template.

(2)

(Total for Question 1 = 37 marks)

2 (a) Mobin wants information about part-time staff.

- (i) Create a query that will display the names and contracted hours of part-time staff.

The information should be displayed in alphabetical order of first name within highest to lowest contracted hours.

Screenprint your query in **Design** view, making sure that all required tables, fields and criteria can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(7)

- (ii) Export your query as an html document.

Screenprint the browser window showing the contents of your html document.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(1)

- (b) (i) Mobin charges owners £15.00 a day for the dog-walking service.

Staff members give weekly invoices to the owners.

Mobin wants to use the standard invoice in **Figure 1**. This will use information from the database.

Weekly Invoice

Owner: Anita Ali

Address: 2 Cornwall Avenue
DL8 9RX

Invoice date: 17/03/2018

Your weekly dog walking payment is now due.

Number of walks per day:	2
Duration of each walk:	30 minutes
Number of days:	3
Cost per day:	£15.00
Weekly cost:	£45.00

Please pay within 7 days.

Thank you for your continued custom.

Mobin

Figure 1

Create a query that will extract appropriate data from the database for a staff member of Mobin's choice.

Screenprint your query in **Design** view, making sure that all required tables, fields, criteria and parameters can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(5)

(ii) Mobin plans to print **one** invoice per page.

He will use the report format shown in **Figure 1**.

Use your query from question 2(b)(i) to extract the data for the report.

The invoice date must be set to the current date automatically.

There must be a page break after each invoice.

Create the report.

Screenprint:

- your report in **Design** view
- your method of ensuring there is a page break after each invoice
- the first page of your report in **Print Preview** view.

Paste the screen prints into the appropriate places in the template.

Re-save your template.

(6)

(Total for Question 2 = 19 marks)

3 (a) Mobin needs to know the number of owners per staff member.

Create a query that will extract the staff name and the total number of owners for each staff member.

Screenprint your query in **Design** view, making sure that all required tables, fields and criteria can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(3)

(b) Mobin would like the information in chart format to make it easier to read.

The chart needs to clearly show the information from the query you created in question 3(a).

Create a report that displays this information as a chart.

Screenprint your report in **Report** view.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(6)

(Total for Question 3 = 9 marks)

4 The database must be tested to check that the solution meets the specified requirements.

One of the specified requirements in the scenario is that owners can request visits between one to five days a week.

You should plan tests that will prove only values within the range will be accepted.

Do not test for non-numerical values.

Do not test for null values.

Complete the table given in the template to plan the tests for this requirement.

Re-save your template.

(Total for Question 4 = 6 marks)

5 Mobin wants to track staff holidays in the dog-walking database.

Figure 2 shows an extract from the spreadsheet he uses at present.

Staff ID	Holiday Start Date	Holiday End Date	Annual Days	Num Days	Num Hols Left	Num Hours To Cover	Comments	Cover Arranged
1	06/03/2017	10/03/2017	20	5	15	40		Yes
1	15/05/2017	19/05/2017	20	5	10	40		Yes
1	17/07/2017	28/07/2017	20	10	0	40		Yes
3	06/03/2017	10/03/2017	20	5	20	40	Cannot take as Gillian is already off	No
3	13/03/2017	17/03/2017	20	5	15	40		No
5	12/06/2017	16/06/2017	20	5	15	32		Yes

Figure 2

Mobin wants the dog-walking database to:

1. ensure that only one member of staff can take a holiday at any one time
2. show whether a temporary member of staff has been arranged to cover the holiday
3. track the number of days holiday each member of staff has used
4. track the number of days holiday each member of staff has left to take.

Analyse why the present database structure does not allow the four identified tasks to be carried out.

Recommend how the database structure could be modified to carry out the four identified tasks.

Type your response in the appropriate place in the template.

Re-save your template.

(Total for Question 5 = 9 marks)

TOTAL FOR PAPER = 80 MARKS