

Write your name here

Surname	Other names
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Centre Number

Candidate Number

**Edexcel GCE**

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# Applied Information and Communication Technology

## Unit 7: Using Database Software

**COVER SHEET**

7 – 25 January 2013

Paper Reference

**6957/01**

**You do not need any other materials.**

Total Marks

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Punch a hole in the top left corner of each printout.
- Ensure your printouts are in the correct order and attach them to Page 2 of this cover sheet using a treasury tag.

P41046A

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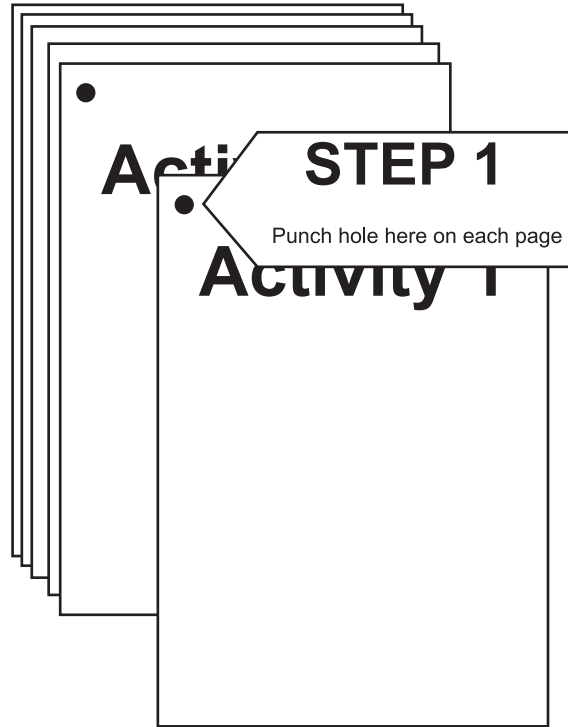
1/1/1



Turn over ►

**PEARSON**

Put 'treasury tag'  
through this hole



**STEP 2** Arrange your pages in this order, face up.

Activity 1  
Activity 2  
Activity 3  
Activity 4  
Activity 5  
Activity 6

**STEP 3** Put a 'treasury tag' through all  
your pages

**STEP 4 (last)**



**FOR EXAMINER'S USE ONLY**

Activity 1		
(a)	1	
	2	
	3	
	4	
(b)	1	
	2	
	3	
	4	
<b>Total</b>		

Activity 3		
(a)	1	
	2	
	3	
	4	
(b)	1	
	2	
	3	
	4	
(c)(i)	1	
	2	
	3	
	4	
(c)(ii)	1	
	2	
	3	
	4	
(c)(iii)	1	
	2	
(d)	1	
	2	
	3	
	4	
	5	
(e)(i)	1	
	2	
(e)(ii)	1	
	2	
	3	
(f)	1	
	2	
	3	
<b>Total</b>		

Activity 4		
(a)	1	
	2	
	3	
	4	
(b)	1	
	2	
	3	
(c)	1	
(d)	1	
	2	
	3	
<b>Total</b>		

SWW		
1		
2		
<b>Total</b>		

Activity 2		
(a)	1	
	2	
	3	
	4	
	5	
	6	
	7	
(b)	1	
	2	
	3	
(c)(i)	1	
(c)(ii)	1	
(c)(iii)	1	
(c)(iv)	1	
(c)(v)	1	
(c)(vi)	1	
(d)	1	
	2	
	3	
	4	
<b>Total</b>		

Activity 5		
(a)	1	
	2	
(b)(i)	1	
	2	
	3	
(b)(ii)	1	
	2	
(b)(iii)	1	
(b)(iv)	1	
(b)(v)	1	
(b)(vi)	1	
(c)	1	
<b>Total</b>		

A1		
A2		
A3		
A4		
A5		
A6		
SWW		
<b>Total</b>		

Activity 6		
MB1		
MB2		
MB3		
<b>Total</b>		



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# Edexcel GCE

## Applied Information and Communication Technology Unit 7: Using Database Software

7 – 25 January 2013

**Assessment Window: 3 weeks**

**Time: 10 hours**

Paper Reference

**6957/01**

### You must have:

Cover sheet, short treasury tag, WWO\_exam.txt

### Instructions

- Complete your candidate details on the cover sheet provided.
- All printouts must contain your name, candidate number, centre number and activity number.
- At the end of the examination:
  - all printouts should be placed in the correct order
  - use a treasury tag to attach your printouts (**as shown**) to page 2 of the cover sheet.

### Information

- The total mark for this paper is **90**. There are **six** activities in this examination totalling 88 marks. **2** further marks are allocated to Standard Ways of Working.
- The marks for **each** question, within an activity, are shown in brackets
  - use this as a guide as to how much time to spend on each question.
- Use relational database software to carry out the database activities in this examination.
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed
  - you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

### Advice

- Read through the Scenario carefully.
- Work through the activities in order.
- Attempt **ALL** activities.
- Label your printouts clearly as instructed.
- Printing must be undertaken within the examination time.

Turn over ►

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PEARSON

## Scenario

### Wallsherpool Sixth Form College - 'Working with Others' Qualification

Wallsherpool Sixth Form College is located in the north east of England and offers students a range of A Level courses. Students study between three and five subjects at AS Level during their first year in the sixth form.

In their first year, students are expected to complete a qualification known as 'Working with Others'. This qualification enables them to prove to universities and potential employers that they are able to work effectively as part of a team.

The qualification has three distinct learning outcomes. Students have to prove their skills in all three in order to successfully gain the qualification.

Students come under the care of a senior tutor during their time at the college. Carole Ploughman oversees the senior tutors. She is responsible for tracking the progress of students in each senior tutor's group. She currently receives progress updates from senior tutors and logs these in a spreadsheet. She creates reports for the college management using this data.

She knows you are studying ICT and thinks you could develop a more efficient IT-based solution to track student progress and provide management with the information they require. In the first instance it has been agreed that you will design and build a **prototype** relational database system that will focus on four tasks. The final system will be based on your evaluation of the prototype and your recommendations for further functionality. Carole will provide you with a text file of the data from her spreadsheet.

These are the tasks.

#### 1 **Start-of-Year**, which involves automatically:

- deleting the data of students that is no longer required
- flagging students who have completed their first year
- providing a suitable message for Carole so that she knows what is happening.

#### 2 **Adding Students During the Academic Year**, which involves:

- ensuring a name is present
- ensuring there is a senior tutor assigned to the student
- generating a unique enrolment number
- storing the student details if all requirements are met, ensuring it is clear they are a current student.

**3 Updating Student Progress Records**, which involves:

- searching for a particular student
- displaying their current progress record
- updating their progress record, where relevant
- indicating whether the student has completed the qualification.

**4 Printing Progress Records** – A printout of the progress of students. The printout will include senior tutor details with the students in their group who have not completed all learning outcomes.

## Instructions to Candidates

All word processed documents **MUST** have a header and a footer. The header must contain the activity number. The footer must contain your name, candidate number and centre number.

Minimum font size of 10 should be used throughout.

Screen prints should be large enough to be easily read.

All database reports must have the activity number, your name, candidate number and centre number in the page header.

### Activity 1 – Understanding the situation (suggested time 30 minutes)

(a) A functional specification should take into account who needs information from the system.

Use word processing software to create a copy of this table.

Information needed	Who needs this information?	What format will it take?
Data entry is invalid when adding a new student	Carole	On screen message
Which students have not completed all learning outcomes for each senior tutor		
An individual student's progress record		
Successful completion of start-of-year tasks		
Whether a student has completed the qualification after their progress has been updated		

Complete the table by identifying, from the scenario, who will need the information and what format it will take. The first row has been completed for you.

(4)

(b) Data that is no longer needed is deleted after two years. This is part of a task to be included in the database.

Identify and explain **two** reasons why deleting data that is no longer needed is important.

(4)

### Evidence to be submitted for Activity 1

- On **one** side of A4, a printout of your completed table and your answer for part (b).

**(Total for Activity 1 = 8 marks)**



## Activity 2 – Structure (suggested time 2 hours)

You will need to use the data file **WWO\_exam.txt**

This is provided in your examination area.

Study the data file.

- (a) Create an efficient database structure that minimises data duplication.

Screenprint the relationship diagram in your database, making sure that the tables, table names, fields and relationships can be clearly seen.

(7)

- (b) Use the correct data types and key fields.

Produce screen prints in **DESIGN** view of each of your tables showing **only** the field names, data types and primary keys.

(3)

- (c) An efficient database must include suitable validation.

**Note:** you can use the same field more than once if appropriate. In (i)–(vi) you **MUST** name the type of validation used.

- (i) Screenprint in **DESIGN** view **ONE** example of a **Format Check** on an appropriate field. Ensure you can clearly see the field it is applied to and the format.

(1)

- (ii) Screenprint in **DESIGN** view **ONE** example of a **Range Check** on an appropriate field. Ensure you can clearly see the field it is applied to and the range specified.

(1)

- (iii) Screenprint in **DESIGN** view **ONE** example of a **Presence Check** on an appropriate field. Ensure you can clearly see the field it is applied to.

(1)

- (iv) Screenprint in **DESIGN** view **ONE** example of a **Table Lookup** on an appropriate field. Ensure you can clearly see the field it is applied to and the row source.

(1)

- (v) Screenprint in **DESIGN** view **ONE** example of a **Default Value** on an appropriate field. Ensure you can clearly see the field it is applied to and the default value.

(1)

- (vi) Screenprint in **DESIGN** view **ONE** example of an appropriate **Field Size**. Ensure you can clearly see the field it is applied to and the field size.

(1)

- (d) Import the data from the text file provided into your database.

Screenprint each table showing at **least five records**, or all records if there are fewer than five, and the **full record count**. (If the fields are too wide to fit on one page, truncated data is allowed.)

(4)

**You must assemble your screen prints in the order you were asked to complete them.**

**(Total for Activity 2 = 20 marks)**

### Activity 3 – Dealing with the start of the year, adding new students and updating student progress records (suggested time 4 hours)

- (a) A main menu is needed so that Carole can click a button to carry out the automatic start-of-year task.

Create a menu for Carole to use.

The menu must include a button that clearly indicates that clicking it will carry out the start-of-year task. The button should not have any actions attached to it yet.

Screenprint the form in **FORM** view.

It does not need any annotations.

(1)

- (b) An automated method of carrying out the start-of-year task is required.

The data in the current spreadsheet system is archived after one year and deleted after two.

The year of enrolment is indicated in the first four digits of the student enrolment number. For example, 0809 would identify a student who did the course in academic year 2008 to 2009.

Create an automated method that:

- deletes data that is no longer required
- changes the **Status** field of last academic year's students to say '**Archived**'.

The process should start by clicking the button created in (a).

Screenprint in **DESIGN** view any macros, code and/or queries you have used.

Ensure that the detail can be seen in full, including how the data was deleted from, or updated in, **all** relevant tables.

(7)

(c) A form is required that will allow Carole to add the details of students who enrol after the beginning of the academic year.

(i) Create a data entry form for Carole to use.

For each student the form should collect:

- the student's name
- the number of subjects they are taking.

It should also allow Carole to select the senior tutor who will oversee their progress.

(2)

(ii) Generate the enrolment number and display it on the form. An enrolment number for the year 2012 to 2013 consists of 1213 followed by the first letter of the surname, first letter of the forename and a sequential four digit number one higher than the last number used.

Screenprint the form in **DESIGN** view.

It does not need any annotations.

Ensure that you show how the enrolment number has been generated.

(4)

(iii) Customise the form to make it easier to use.

Screenprint the form in **FORM** view.

It does not need any annotations.

(2)

(d) An automated method of saving a new student record is required.

This must include:

- saving the details collected on the form in (c)
- ensuring that progress records are created for WO2.1, WO2.2 and WO2.3 for this student.

Create an automated method of doing this.

Screenprint in **DESIGN** view any macros, code and/or queries you have used.

Ensure that the detail can be seen in full.

(5)

(e) A form is required that allows Carole to update the progress of a particular student.

(i) Create a query that will allow Carole to find a student.

Screenprint the query in **DESIGN** view.

Ensure that the detail can be seen in full.

It does not need any annotations.

(1)

(ii) Create a form for Carole to use that is based on the query created in (i).

It should allow Carole to update the progress of the student.

Screenprint the form in **FORM** view.

It does not need any annotations.

(3)

(f) When a student has completed all three learning outcomes they have completed 'Working with Others.'

Create an automated method to update the student record to reflect this.

Screenprint in **DESIGN** view any macros, code and/or queries you have used.

Annotate your work to explain how this works.

Ensure that the detail can be seen in full.

(3)

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**(Total for Activity 3 = 28 marks)**

#### **Activity 4 – Testing (suggested time 1 hour)**

(a) Use the button on the main menu you created in Activity 3 to carry out the start-of-year tasks.

Produce:

- a screen print of the number of records in the appropriate table showing at least five of the archived student records
- a screen print of the number of records in the table that shows student progress
- a screen print of the message that appears.

(4)

(b) A new student has arrived. Enter the details of this student on the relevant form.

Surname: Tennant  
Forename: Matthew  
Senior tutor: GM  
Number of subjects: 3

Produce screen prints of:

- the completed form in **FORM** view
- the relevant table showing the new student's details
- the relevant table showing the newly created progress records.

(3)

(c) Another new student has arrived. Enter the details of this student on the relevant form.

Surname: Boston  
Senior tutor: GM  
Number of subjects: 3

Produce a screen print of any message that appears.

(1)

(d) Use the form you created in Activity 3 to update the progress of student 1213CK1210 who has now completed WO2.2

Enter the data into the form and produce screen prints of:

- the completed form in **FORM** view
- the relevant table showing the updated progress in WO2.2
- the relevant table showing the updated student record.

(3)

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**(Total for Activity 4 = 11 marks)**

### Activity 5 – Printing progress records (suggested time 1 hour and 30 minutes)

**Note: this activity requires you to produce a database report. The activity number, your name, candidate number and centre number should be in the page header for the report. (You need to modify your report in DESIGN view to do this.)**

Carole would like to be able to print a report for management that shows the students who have not completed 'Working with Others'.

- (a) Create a query that will find students who have not fully completed 'Working with Others'.

For each senior tutor the query should display the student names and enrolment numbers.

Screenprint the query in **DESIGN** view. Ensure that the criteria can be seen in full.

(2)

- (b) Create a database report based on the query from part (a).

- (i) Group the report appropriately and add a suitable title that will appear on every page.

(3)

- (ii) Ensure that the group header shows:

These fields:

- SeniorTutor
- Senior tutor surname
- Senior tutor forename

These labels:

- EnrolmentNumber
- Student surname
- Student forename

(2)

- (iii) Ensure the detail section shows these fields:

- EnrolmentNumber
- Student surname
- Student forename

(1)

- (iv) Ensure the group footer section shows:

- for each senior tutor, the number of students who have not completed 'Working with Others'.

(1)

(v) Ensure the report footer shows:  
• the total number of students who have not completed 'Working with Others' (1)

(vi) Ensure there is a new page for each senior tutor. (1)

(c) Format the report. (1)

Screenprint the report in **DESIGN** view.

Print the database report.

**Evidence to be submitted for Activity 5**

- A screen print of the query in **DESIGN** view.
- A screen print of the database report in **DESIGN** view.
- The printed database report.

**(Total for Activity 5 = 12 marks)**

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**\*Activity 6 – Evaluation (suggested time 1 hour)**

You need to evaluate the prototype you have produced.

In a word processed report:

- evaluate your prototype. This must be an evaluation of how well it carries out the tasks identified in the scenario rather than a commentary of what you have done or your own performance in doing it.
- discuss your recommendations for further functionality. In the scenario you were told that your system was to be the first prototype and that it would only carry out certain tasks. In this section of the evaluation describe what else you think the fully functioning version should do.

The Quality of your Written Communication (QWC) will be assessed in this question.

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**(Total for Activity 6 = 9 marks)**

**Standard Ways of Working.**

**All printouts must contain the activity number, your name, candidate number and centre number.**

**Pages must be securely fastened to the cover sheet and in the correct order.**

**A minimum font size of 10 should be used for all word processed documents.**

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**(Standard Ways of Working = 2 marks)**

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**TOTAL FOR PAPER = 90 MARKS**