Paper Reference(s)

6957/01

Edexcel GCE

Applied Information and Communication Technology

Unit 7: Using Database Software

11–29 January 2010

Assessment window 3 weeks

Time: 10 hours

Materials required for examination

Short treasury tag
contract_exam.txt
phone_exam.txt
logo_exam.jpg

Items included with question papers

Cover sheet

Instructions to Candidates

Complete your candidate details on the cover sheet provided.
At the end of each session you should hand your materials in to your teacher.
All tasks must contain your name, candidate number, centre number and activity number.
At the end of the examination use a treasury tag to attach your printouts **(as shown)** to Page 2 of the cover sheet in the correct order as shown.

Information for Candidates

There are **five** activities in this examination totalling **88** marks. **2** further marks are allocated to standard ways of working giving a paper total of **90** marks.
Use relational database software to carry out the activities in this examination.
The marks for parts of the activities are shown in round brackets: e.g. **(10)**.
There are suggested timings against each activity: e.g. **(1 hour)**.

Advice to Candidates

Study all the information provided carefully.
Work through the activities in order.
Attempt **ALL** activities.
Label your printouts clearly.

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Scenario

Elisha Bonda owns a company called Elisha Bonda Fashionfones (EBF). It markets its own range of mobile phones all of which have a selection of different features such as Bluetooth. EBF also offers various payment packages of 12, 18 or 24 month duration.

Elisha is mainly concerned with the appearance of the phones. Her marketing ideas are better than her system for record keeping. Her accountant has warned her that she needs a more professional approach to business if her company is to succeed.

The company's current system uses paper records of customers, contracts and phones. This is time consuming and inaccurate. It is difficult for Elisha to monitor sales or to plan for the future.

Acting on the advice of her accountant Elisha has employed you to design, implement and test a relational database that would benefit her company in terms of:

- accurate record keeping
- efficiency
- improved customer service.

Elisha is quite clear about what she wants the database to do. It needs to be able to:

- record and update customer details
- record and update contract details
- allow staff to view customer and contract details from a range of input data
- indicate when a contract is one month from expiring
- track stock levels of the phones
- generate reports and messages if stock levels go below the re-order level
- generate reports on sales.

Above all, the database interfaces must be clear, well presented and intuitive.

Elisha realises that human error can occur so she has asked you to implement a range of measures to prevent invalid data being entered.

When a contract is set up the customer's bank account details are recorded. Monthly payments are then made by direct debit. The database system is not required to keep track of payments. This is carried out satisfactorily by the accounts clerk and Elisha does not want to change this at the moment.

Some customers have more than one contract. Most of the existing contracts were taken out for 12 month packages but Elisha wants to get customers interested in packages for 18 or 24 months as these are more profitable.

There is a range of different phones available. Any phone can be linked with any package.

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.

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

Activity 1 – Understanding the problem (suggested time 1 hour)

On one sheet of A4 produce a table that:

- identifies **four** processes that the database system needs to undertake.

(4)

For each process, identify:

- the data items to be input

(4)

- the outputs.

(4)

Evidence to be submitted

❑ A table such as the one shown.

Process	**Input(s)**	**Output(s)**

(Total 12 marks)

Activity 2 – Structure (suggested time 2 hours)

You will need to use the data files provided in your examination work area:

- **phone_exam.txt**
- **contract_exam.txt**

Study the data files then:

- use data modelling techniques to design and implement an efficient database structure that minimises duplication of data

(12)

- use a range of validation checks and input masks to prevent errors from entering the system

(5)

- load the existing data from the text files into your database.

(4)

Evidence to be submitted

Screen prints showing:

- ❑ each table structure with data types
- ❑ the relationships and key fields in your database
- ❑ any validation checks and input masks applied
- ❑ the tables after import, showing the field names, number of records imported and at least **five** records.

(Total 21 marks)

Activity 3 – Creating the Interface (suggested time 4 hours)

Create a form or forms to allow contracts to be set up for new and existing customers.

(18)

Evidence to be submitted

- ❑ Screen print of the form or forms in **DESIGN** view.
- ❑ Screen print of the form or forms in **FORM** view.
- ❑ Screen print in **DESIGN** view of any queries or macros you have used within the form or forms.
- ❑ Annotated screen prints to explain how the form or forms work and how you have simplified data entry for the user.

Explain how a customer's choices are entered via the interface and are saved.

(3)

Show how your system updates and reports low stock levels.

(6)

Evidence to be submitted

- ❑ Annotated screen prints to explain how a customer's choices are entered via the interface and are saved.
- ❑ Annotated screen prints to show how your system updates and reports low stock levels.

(Total 27 marks)

Activity 4 – Testing (suggested time 2 hours)

Using the interface you created in Activity 3 carry out the following **five** tests and record your results.

Test 1

Ms Susan Parkinson has contacted EBF and wants to purchase a Classic phone with a Leopard3 package. Her address is 12 Mardle Drive, Cheadle, Cheshire, M4 9LL. Her bank code is 14-03-54 and her account number is 0150486.

Enter her details into your database system.

(3)

Evidence to be submitted

- ❑ Screen print the order in **FORM** view.
- ❑ Screen print any updated table(s).
- ❑ Explain how this purchase will test your database.

Test 2

Mrs Lynda Sephton wants to purchase a Blackberry phone with a Tiger1 package. Her address is 266 Downwor Lane, Pallion, Tyne & Wear, SR78 0LL. Her bank code is 12-07-42 and her account number is 0240958.

Enter her details into your database system.

(3)

Evidence to be submitted

- ❑ Screen print the order in **FORM** view.
- ❑ Screen print any updated table(s).
- ❑ Explain how this purchase will test your database.

Test 3

Devise and carry out a test to show how your database system deals with **valid** data by creating a new contract.

(2)

Evidence to be submitted

- ❑ Annotated screen print(s).

Test 4

Devise and carry out a test to show how your database system copes with an attempt to set up a contract using **invalid**, or **missing**, customer data.

(2)

Evidence to be submitted

❑ Annotated screen print(s).

Test 5

Devise and carry out a test to show how your database system copes with an attempt to set up a contract for a **non-existent package**.

(2)

Evidence to be submitted

❑ Annotated screen print(s).

(Total 12 marks)

Activity 5 – Package sales summary (suggested time 1 hour)

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 database report. (You need to modify your database report in DESIGN view to do this.)

Create a database report to produce the package sales summary for 2009. Your database report must show the sales of 24 month, 18 month and 12 month packages on separate pages.

Each page must include:

- the company name and company logo
- the total number of packages sold in each month of 2009 for each package duration
- the total income for sales for each month of 2009 for each package duration.

The database report footer should show:

- the total number of contracts sold in 2009
- the total income in 2009.

Evidence to be submitted

❑ The printed database report and a screen print of the database report in **DESIGN** view.

(Total 16 marks)

(Standard ways of working: 2 marks)

TOTAL FOR PAPER: 90 MARKS

END