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FOR WALES



Key skills

Information and communication technology

Level 4 - Students

Wednesday 16 - Friday 18 November 2005

Test Paper

YOU NEED

- This test paper
- A cover sheet
- Access to a computer, software and a printer
- Access to the data files to support the scenario 'Students': **StudentC**, **CourseC** and **ProfileC**. (Please note that these data files may also be located in the scenario 'Courses')

You may use a bilingual dictionary

Do NOT open this paper until you are told to do so by the supervisor

THERE ARE 4 TASKS IN THIS TEST

Task A	(total 17 marks)
Task B	(total 7 marks)
Task C	(total 25 marks)
Task D	(total 1 mark)

Total marks available: 50

Try to complete ALL the tasks

YOU HAVE 2 HOURS 30 MINUTES TO FINISH THE TEST

INSTRUCTIONS

- Make sure your personal details are entered correctly on the cover sheet
 - Make sure you print out all your work
 - Task D **must** be completed; if necessary, it may be carried out after the end of the test
-

**At the end of the test, check that your name appears on EVERY printed page
Attach your printouts and this test paper to the cover sheet and hand them
to the supervisor**

REMEMBER: YOU HAVE 2 HOURS 30 MINUTES TO FINISH THE TEST

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Try to complete ALL the tasks
ENTER YOUR NAME ON EVERY PAGE, PREFERABLY AS A FOOTER
Pages without a name will not be marked

A college office keeps records of courses taken by students. They are required to allocate students to courses and to produce course reports itemising fees due. You will use database software to

- import data files into a database to create a database structure
- interrogate a database to produce a report

Task A

A database is required for student allocation.

1 A database is required.

- a Open a database application and create a new database. The filename for this database must be the characters **D1-** followed by your initials, for example **D1-FJB**. If your database software requires you to save the file, you should save it after each of the following instructions using the next number in sequence each time, for example **D2-FJB** then **D3-FJB** and so on.
- b Import the data file **StudentC** into a table and name the table **tblStudent**. The data includes a header row, is comma delimited and text is enclosed in quotes (").

StudentID	LastName	FirstName
10003	Samad	Zara
10022	Schumann	Clarke
10029	Goddard	Stephen

DOB	Gender	Concession
21/09/1984	F	0.5
27/09/1984	M	0.5
03/12/1965	M	0

- c Set **StudentID** as the primary key.
- d Format the **Concession** field as per cent to zero decimal places and a default value of 0%.
- e Set up validation for the **Concession** field that accepts only values in the range 0 to 1 inclusive as valid entries with a validation text message "Value must be from 0 to 1".

- f Use 'Screen Dump', 'Print Screen' or 'Documenter' techniques to show the design of the table, including the
- field names and data types
 - primary key
 - format of the **Concession** field
 - default value for the **Concession** field
 - validation rule for the **Concession** field
 - validation message for the **Concession** field
- g Place your name, today's date, page number, number of pages and the title **Printout-1** in a footer and print the design of the table.

5 marks

2 Database tables of the courses and which courses students take are required.

- a Import the data file **CourseC** into a table and name the table **tblCourse**. The data includes a header row, is comma delimited and text is enclosed in quotes (").

CourseCode	Subject	Fee	DurationWeeks
1001	Biology	430	33
1002	Business Studies	430	33
1003	Business Studies	120	33

- b Set **CourseCode** as the primary key.
- c Set the data type for the **Fee** field as currency with format to two decimal places.
- d Import the data file **ProfileC** into a table and name the table **tblProfile**. The data includes a header row, is comma delimited and text is enclosed in quotes (").

StudentID	CourseCode	FeePaid	PredictedGrade	ActualGrade
10003	1002	1	A	P
10003	4012	0	B	P
10022	1011	0	C	P

- e Set the primary key in the **tblProfile** table to **StudentID** AND **CourseCode** together. In your database it may be necessary to import the data without a primary key and then set **StudentID** AND **CourseCode** together as the primary key.
- f Set the data type of the **FeePaid** field to logical. (Your software may display this field in a form other than Yes/No.)

4 marks

- 3 Relationships between the database tables are required.
- a Set suitable relationships between the tables **tblStudent**, **tblCourse** and **tblProfile**.
 - b Use 'Screen Dump', 'Print Screen' or 'Documenter' techniques to show the design of the relational database, including
 - tables
 - the field names and primary keys in each table
 - relationships between the tables
 - c Place your name, today's date, page number, number of pages and the title **Printout-2** in a footer and print the design of the database.

8 marks

Task B

Facilities to enable data input are required.

- 4 An input form is required to assign students to courses and modify course allocations.
- a Create a form named **frmStudentAllocation**. Include the fields
 - **StudentID**, **CourseCode** and **FeePaid** from **tblProfile**
 - **FirstName** and **LastName** from the **tblStudent**
 - **Subject** and **Fee** from the **tblCourse**(A single form or a form with a sub-form is acceptable.)
 - b Add the heading **Student and Course Allocation**.
 - c Make sure that all information is fully displayed.
 - d Create a footer in the form to include your name and a function to display today's date.
 - e Use 'Screen Dump', 'Print Screen' or 'Documenter' techniques to show the design of the form, including the
 - header and footer information
 - field names
 - field labels
 - f Place the page number, number of pages and the title **Printout-3** in the footer and print the design of the form.

7 marks

Task C

Modifications to the course allocations are required before the fee details are printed.

5 Modifications and additions are required to student course allocations.

- a The table below shows students who have now paid their course fee. Use your form to find these records and modify the information in the database.

StudentID	LastName	CourseCode	Subject	FeePaid
10965	Bailey	4012	English	YES
10338	Beard	1007	Economics	YES
10545	Shah	1011	Accounting	YES

- b The table below shows existing students who are either to be added to the English course, with the course code of 4012, or have paid the course fee. Use your form to add to or amend the information in the database.

StudentID	FirstName	LastName	CourseCode	Subject	Fee	FeePaid
10821	Henrietta	Pack	4012	English	£50.00	NO
10883	Louis	Ansell	4012	English	£50.00	NO
10255	Clarke	Bladon	4012	English	£50.00	NO
10003	Zara	Samad	4012	English	£50.00	YES

4 marks

6 A report is required for course fees due.

- a Create a query named **qryConcessionsOwed** to find all students who
- are taking courses where the fee is greater than 0 and
 - have not paid that fee and
 - are entitled to a concession which is greater than 0% and less than 100% of the fee
- b Include the following fields in the query fields **FirstName**, **LastName**, **TutorGroup**, **Concession**, **Subject**, **Level**, **Fee** and **FeePaid**.
- c Use the query to produce a report in landscape form with the heading **Fees due from Students with Concessions**.
- d Include only the fields **TutorGroup**, **LastName**, **Subject**, **Level** and **Fee** in the report, presented in columns in this order. Make sure all information is fully displayed.

- e Group the report by **TutorGroup** and then by **LastName** with records in ascending order of **Subject**.
- f **FeeDue** is the **Fee** minus the **Concession** in pounds. Include a column at the right of the report headed **FeeDue** to show the amount of fee due for each course taken by a student. Format the column as currency to two decimal places.
- g Create a total for each student to calculate their total fee due. Format the field as currency to two decimal places.
- h Create a total for each tutor group to calculate the total fees due from the students in that tutor group. Format the field as currency to two decimal places.
- i Insert a label, **Total owed by tutor group**, to the left of the total for each tutor group.
- j Set up the report so that each tutor group starts on a new page.
- k Locate the heading **Fees due from Students with Concessions** so that it appears as a header on every page of the report.
- l Place your name, today's date, page number, number of pages and the title **Printout-4** in a footer and print the report. Make sure all information is fully displayed.

21 marks

Task D

The following task must be completed. If you have not completed this item within the time allowed, it must be completed at the end of the test.

- 7 A printed list of the filenames you produced during the test is required.
 - a Produce a list of all the files created during the test. This should be in the form of a screen dump (print screen) of the sub directory, showing the filenames you created with your name, today's date and the title **Printout-5** as a footer.

1 mark

End of test

Important note

Collect together all your documents. They should include

- Printout-1** tblStudent table design rules/screen dump
- Printout-2** Relationships between database tables/screen dump
- Printout-3** Input form/screen dump
- Printout-4** Printout of database report showing concessionary fees due
- Printout-5** List of filenames created

Check that your name is printed on every page. If it is not, write it there and ask the supervisor to authenticate that the page contains your own work. Now attach all the pages in order, and this test paper, to the cover sheet and hand them to the supervisor.

