

Paper Reference(s)

4385/03

**London Examinations IGCSE
Information and Communication
Technology**

Paper 3

Case Study and Set Tasks

May 2007 and November 2007

Instructions to Candidates

1. All of the tasks should be attempted.
2. Work submitted must be your own and must be independent from that of other candidates. Sharing the work for any task could result in all of your work being rejected.
3. The time allowed for each task is that set by your teacher.
4. The deadline date for each task is that set by your teacher. Time allowances and deadlines will reflect the need for the centre to submit the work to London Examinations by the required date.
5. There are no limitations on the hardware or software that you may use.
6. **All material submitted as evidence for a task must be clearly labelled with the Candidate Name and Candidate Number, and the task identification, e.g. Task 1(a), Task 1(b).**
7. **Only work which is specified in the set tasks should be submitted.**

Four marks will be awarded for full compliance with **instructions 6 and 7.**

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CASE STUDY

Bankside College has a large Computing Department which runs several courses. The Computing Department has its own web site. The home page has links to sub-sections for each course offered by the department. One of the courses is the London Examinations IGCSE in ICT (4385).

IGCSE ICT is taught as a two-year course. In each year of this course there are thirty-six students who are divided into three groups, with twelve students in each group. The course is taught by a team of teachers. Each member of the team is responsible for part of the course and teaches it to all of the students. The team uses a spreadsheet as an electronic mark book, in which all the marks gained by the students following the course are recorded. Similar electronic mark books are used for other courses taught within the department. The Head of Department uses a different spreadsheet that gathers a summary of the marks from the mark books of each course.

A database is used by the teachers for tracking the progress of the students' projects. Students who are taking the course are allowed read-only access to the mark book and database. They gain access through links on the web site.

The web site

Tasks 1(a) and 1(b) are related to this section.

The IGCSE ICT part of the web site.

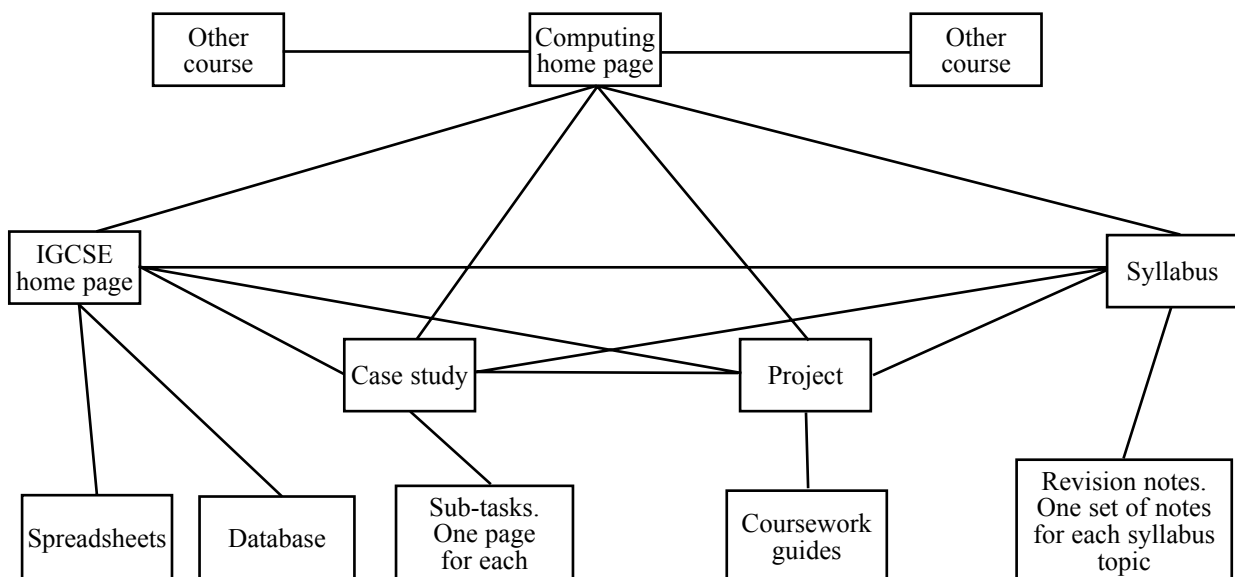
This consists of the following four principal pages:

- an IGCSE home page
- a case study page
- a project page
- a syllabus page.

Each page of the web site is displayed as a single 800 by 600 pixel screen.

The site map

The following diagram shows a simplified site map of the Computing Department web site.



The IGCSE home page

The page shows:

- the course title and specification number
- a brief description of the course
- a list of the staff who teach the course
- pictures of the staff.

The page has links to:

- the database and spreadsheets
- the Computing Department home page
- the other principal pages.

The case study page

The page uses tables for layout.

The page shows:

- a list of each of the tasks
- a timetable, showing when each task will be started by each of the three groups.

Each task in the list is also a link to a page which gives details of the task and recommended preparatory work.

The page has links to:

- the Computing Department home page
- the other principal pages.

The project page

The page shows:

- a description of the project requirements.

The page has links to:

- the coursework guide
- the coursework guide for students
- the Computing Department home page
- the other principal pages.

The syllabus page

This page shows a list of all of the topics in the syllabus.

The page has links to:

- the revision notes pages
- the Computing Department home page
- the other principal pages.

The revision notes pages

Each of these pages shows:

- revision notes for a single syllabus topic.

If the notes are too large for a single page, extra pages are linked to the first one. The revision notes pages contain appropriate text and illustrations and they use a style sheet to give them a uniform appearance.

The mark book spreadsheet

Tasks 1(c) and 1(d) are related to this section.

The teachers use a spreadsheet as a communal mark book. It consists of three similar sheets, one for each group of twelve students. The sheets are named Group 1, Group 2 and Group 3. Students on the first year of the course are in a separate mark book from those on the second year.

Each sheet has a sorted list of student names at the left-hand side. There are ten columns for test marks. At the top of each column, there is a cell that shows which test the marks are for, and a cell giving the maximum mark available for that test. At the bottom of the column is a cell giving the average of the marks entered for that test. If a student does not take a test, the corresponding cell is left blank. Blank cells do not form part of the calculation of the average.

There is also a column containing total marks, a column containing percentage marks, and a column containing grades.

For calculations of the total marks and the percentage marks, blank cells count as zero. The grades are found by using the percentage marks. There are five grades: A, B, C, D and E. The grades and the minimum mark for each grade appear in a box below the marks area of the sheet. The grades awarded in the grade column change automatically if the minimum marks are altered.

The summary spreadsheet

Tasks 1(e) and 1(f) are related to this section.

The Head of Department has a spreadsheet that gathers summary marks from the mark books of each course. It contains one sheet for each year of each course. The Head of Department can run a script or macro that updates the summary spreadsheet with the marks from the three sheets of the IGCSE ICT mark book for that year.

The database

Task 2 is related to this section.

A database is used by the teachers for tracking the progress of the students' projects. It consists of two tables with identical structures. Each table contains information about the students on one year of the course. The tables are named for the year in which that group started the course: 2005 or 2006.

Each table has:

- fields to identify the student
- fields to identify the project
- fields to show estimated marks for each section
- a field to show an estimated grade for the project
- a field for teachers to write comments.

TASKS

Task 1

- (a) **The web site design.** Sketch designs for the IGCSE ICT home page, the case study page, and **one** of the revision notes pages. In the sketches, headings should be given, but areas of descriptive text may be shown as blocks. The full text of the blocks should be shown on the reverse of the design sheets. Outline drawings may be used to indicate any graphical components.

Each of the three page designs must be submitted as a single A4 sheet.

(10)

- (b) **Making the web site.** Make a style sheet for the revision notes pages.

Make and print the **three** pages designed in **Task 1(a)**.

Each of the three pages must be submitted as a single A4 sheet. Any changes from the designs in Task 1(a) must be clearly indicated.

Print the source code for the style sheet on a single A4 sheet. Annotate the source code and the revision notes page to show which features are controlled by the style sheet.

(5)

- (c) **The mark book design.** Design the Group 1 sheet of the spreadsheet. Annotate the design to show where functions, formulae or other special features will be used. Functions and formulae do not need to be written out in full but the annotation must explain their purpose.

The design must be submitted as a single A4 sheet.

(5)

- (d) **Making the mark book spreadsheet.** Make the Group 1 sheet.

Any changes from the design in Task 1(c) must be clearly indicated.

Enter the names of five students, and column headings for eight tests. Some of the test marks should be blank, showing that a student has not taken that test.

In an area below the working part of the sheet, format four cells as text.

Into the text formatted cells, write formulae or functions to produce the following:

- the average for each column of marks
- the total for each row of marks
- the percentage marks
- the grades.

Print the sheet and annotate it to explain how it works.

(9)

- (e) **The summary spreadsheet.** Design, make and print a **single** sheet for an IGCSE ICT summary page of the Head of Department's spreadsheet.

Design a script or macro that performs the tasks of collecting marks from the correct mark book and placing them in the summary page. Annotate the design to explain how this script or macro works. The design may be submitted in any suitable form, e.g. a flowchart, structured English or a scripting language.

The design must be submitted as a single A4 sheet.

(5)

- (f) **The mark book spreadsheet.** Create two more sheets: Group 2 and Group 3. Copy and paste the contents of Group 1 into both Group 2 and Group 3. You do not need to produce evidence for this but the two sheets will be required for your script or macro to work.

The summary spreadsheet.

Make and print the script or macro from Task 1(e). Annotate the printout to explain how it works.

(4)

(Total 38 marks)

Task 2
The database

- (a) The database holds details of all of the students and their projects. Sketch a design for a screen used to input student and project details for the first year of the course. The screen should be designed to be user-friendly. Annotate your design to explain your choice of:
- field names, data types and sizes
 - validation checks
 - user-friendly features.

The design must be submitted as a single A4 sheet.

(10)

- (b) Using your design from **Task 2(a)**, build a single-table database for this application. The table should be for the students starting in 2005. The 2006 table will be added in **Task 2(e)**. Enter data for five students. Their projects should be in various stages of completion. Some projects should be Standard and the others Extension.

Print the table on a single A4 sheet and print one example of the input screen. Show:

- fields with their data types and sizes
- any validation or other operations associated with the fields.

Any changes from the design in Task 2(a) must be clearly indicated.

(5)

- (c) Add the following fields to the database:

- a calculated field that gives the total estimated mark
- a calculated field that converts the total estimated mark into an estimated grade.

Print the following items as evidence:

- (i) **one** example of the modified input screen, showing the new fields
- (ii) a screen showing how the total mark was calculated
- (iii) a screen showing how the estimated grade was calculated – this should be annotated to explain how the calculation works.

(5)

- (d) Design and make a new form which can be printed out as an IGCSE ICT project cover sheet.

Submit the following items as evidence:

- (i) a design sketch of the new form
- (ii) a printout of **one** example of a completed form.

Any changes from the design sketch must be clearly indicated.

(5)

- (e) Make the 2006 table of the database and join it to the 2005 table. Enter data for five students and their projects. Include some students who have completed only the Identify stage and some who have completed the Analyse stage.

Make a search for students who are working on Standard projects.

Print out the following items as evidence:

- (i) a screen showing the link between the tables
- (ii) a screen showing the search conditions
- (iii) a screen showing the search results.

(3)

- (f) The Head of Department decides to send a letter to all students who have submitted Standard projects, warning them that they need to add some advanced features if they wish to gain Extension marks.

Make a search for students who are working on Standard projects. The search must exclude those students who have no mark for the Analyse stage.

Print out the following items as evidence:

- (i) a screen showing the search conditions
- (ii) a screen showing the search results.

(2)

- (g) Sketch a design of the template for this letter.

Submit the following items as evidence:

- (i) the design for the letter template
- (ii) **one** completed letter and envelope – the envelope may be printed as a sheet of A4 paper
- (iii) a screen shot to show that the letter template is linked to the database.

(8)

(Total 38 marks)

Task 1 and Task 2

Presentation and relevance of submitted material, as specified in the 'Instructions to Candidates' on the front cover.

(Total 4 marks)

TOTAL FOR PAPER: 80 MARKS

END