



General Certificate of Education

Applied Information and Communication Technology 8751, 8753, 8756, 8759

IT10 Advanced Spreadsheet Design

Report on the Examination

2008 examination – June series

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Set and published by the Assessment and Qualifications Alliance.

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Unit 10: Advanced Spreadsheet Design (IT10)

General comments

Nearly all candidates provided evidence of setting up a spreadsheet system for a client. Generally they revealed that the candidate had a good knowledge of the chosen software.

Most candidates used many complex spreadsheet features, but these tended to be added on to a system rather than an integral part of it.

The quantity of work submitted by some candidates is a cause for concern. Some candidates have submitted between 300 and 400 pages. In some instances much of this work is surplus to the requirement for assessment and does not gain additional marks. It should be noted that the quality of what is submitted is far more important than quantity and candidates may disadvantage themselves by trying to printout large quantities in a limited time, particularly where the main reasons for this mass of material are series' of repetitive and very similar tests, or the inclusion of unnecessary information in the implementation report.

Organisation of submitted work

Some candidates failed to carry out the instructions in the Candidate Booklet. In particular, candidates should be reminded to:

- number the pages of their scripts
- submit the work in the order (a) – (k) requested
- include the name, centre number and candidate number on all pages
- bind pages securely, in the correct order, using a treasury tag

The use of appendices should be discouraged. If relevant material is to be included in the work submitted then it should be included where it shows what has been done for a particular item, rather than as an appendix

Candidates should check their work prior to submission, as this is an applied course where professional standards are expected. As the tasks are linked to the needs of a client the work submitted should be at a standard that would be acceptable to that client.

Choice of project

The emphasis is on real or, at the very least, realistic projects. Some candidates have stated that their client is a multi-national company which calculates its payroll manually and needs an electronic spreadsheet system to improve the situation. Such work is outside the scope of this unit.

Some candidates created database type projects that might have been more suitable for Unit 3. Suitable spreadsheet projects should include calculations and manipulation of data.

Investigation Time

Task (a) - Time plan

Most candidates attempted to break up the tasks and allocate an appropriate amount of time. Those who thought about this carefully and broke the tasks down into appropriate smaller subsets achieved the second available mark.

Several candidates simply repeated the tasks (a) to (k) from the Candidate Booklet, rather than thinking about what they actually needed to do.

Task (b) – Background information

Candidates are expected to answer the question, 'Why does the client need a spreadsheet and what benefits will it give them?' Most candidates described why a spreadsheet was needed. Those who went on to explain the benefits to the client of using the spreadsheet solution gained the second mark available.

Candidates are also expected to consider the skill level of the user and how this will affect the designs for their proposed solution. Most candidates described the skill levels of the user and were awarded one mark. Those who went on to describe how this would affect the design of their system, by for example making them simplify the interface, gained the second mark.

Task (c) - Client needs

Most candidates produced a list of some client needs. Better candidates gave these needs in detail and explained how this would affect the design of their proposed system.

Some candidates included such statements as 'the client needs are to include six advanced software features' or 'my client wanted macros.' Clearly these were not needs of the client but the requirements of the Specification and gained no marks. Modifying these statements to explain what client needs these items would meet would have gained some marks. For example, stating that 'my client wants to be able to choose from a list of components', 'my client said that she wanted to prevent the accidental deletion of the contents of the output reports' are clearly stating the needs of the client.

Few candidates described the inputs, processes and outputs required in much detail, if at all. It was rare to see any mention of input or output formats, or to see sample input and output data. Some candidates did attempt to describe the processing that would take place. Describing the required outputs, inputs and the processing needed to produce these outputs is an important part of understanding the needs of the client by breaking them down into the constituent parts and then how the system will meet those needs.

Some candidates listed the required hardware for the solution, such as input devices rather than the data that has to be input. This is not needed and does not gain any marks.

Task (d) - Evaluation criteria

On the whole, this was done well but some candidates simply repeated their client's needs as evaluation criteria.

A common evaluation criterion was 'Have the client's needs been met?' without breaking this down into smaller parts. The evaluation criteria should be derived from the client needs and lead to a comprehensive test plan. For example, referring to the client need mentioned in item (c) a suitable criterion might be 'Can a user of this system accidentally delete the contents of the output reports?' This would lead to an item in the test plan 'I will test that the contents of the output reports can not be deleted accidentally by trying to delete them.' This may need to be broken down further for the plan to be sufficiently detailed

Task (e) - Designs

Most candidates produced annotated designs that could have been implemented quite easily by a third party.

Few candidates annotated their designs by making reference to client comments, for which 3 marks are available, though some did document client discussion within their narrative description and then provided revised designs. These latter candidates were awarded marks for this description.

Task (f) - Test plan

Although candidates generally managed to produce a test plan, rarely did they describe their test strategy. A test strategy, for which up to 2 marks are available, should describe how the components of the system will be tested. From this a detailed test plan can be written. Test plans should enable the candidate to test that the client's needs and the evaluation criteria have been satisfied.

Prior to testing candidates should choose sets of test data for which the expected outcomes can be accurately predicted. Many candidates had test plans that tested macro buttons and validation to exhaustion but did not test that the spreadsheet calculations were correct, or that input data produced the correct outputs. As a result few candidates gained all marks available.

Controlled conditions

Centres are reminded that controlled conditions means examination conditions and that clear guidance is provided in the Teachers' Notes about what is and what is not allowed. Any queries should be addressed to the ICT Subject Officer.

Students should be reminded that no electronic files, including image files, may be taken into the controlled conditions sessions.

Students should not be allowed to have access to their normal user areas and email during the controlled conditions. This does contravene controlled conditions rules and these facilities should be disabled by the centre during the controlled conditions sessions.

Task (g) - Testing

Work in this section is improving over time, but few candidates are testing discrete parts of the system and the system as a whole.

In their testing candidates should test that the actual outcomes of testing with known data sets match those that are expected.

Some candidates provided excessive amounts of evidence that testing had been carried out by, for example, showing screenshots of inputs, resultant outputs and each number being entered into a calculator program. Some provided very repetitive screenshots that showed numerous similar items being tested. These candidates gained no additional marks to those who produced a screenshot of the input and output and annotated it to explain how this compared with the expected.

Some students demonstrated that they understood the purpose and function of testing through their use of sensible, predetermined data sets that reduced the number of tests that were required.

Task (h) - Implementation

Some very good examples of the use of spreadsheet software were seen. Candidates generally did not do enough to explain how the spreadsheet system that they had created met the needs of the client, by referring back to the original description of the needs.

The best candidates, however, linked much of their work to the client needs stated in task (c).

Common problems with documenting the implementation of the spreadsheet system, often resulting in some of the available marks not being gained, included:

- Screenshots cropped so that cells mentioned in formulas were not visible, so it was impossible to see whether the formulas referred to were correct
- Screenshots cropped so that formulas were not visible
- Screenshots cropped so that sheet names and file names had been removed
- Poor colour choice so that screenshots were not legible
- Screenshots being too small to read

Some candidates printed worksheets in formula view, showing exactly what formulas they had set up. This is recommended, as it provides the examiner with the information required to fully assess the system being developed.

In many instances there was a large amount of superfluous material in the submitted work. This included, for example, guides to using Microsoft Excel, user documentation, hardware and software requirements for the client and screen-by-screen implementation reports.

Candidates do not need to document every step of how they used feature of the software, such as recording a macro or formatting the borders of some cells. It is sufficient to show the completed feature, such as the coding of a macro, annotated to show what it does, or a screenshots of the cells with the borders formatted annotated to show why this has been carried out.

Few candidates seemed to understand what is meant by a reusable spreadsheet system; that is one that can be used again and again, either by using templates to set up a blank worksheet or by creating automated facilities to delete old data.

Some candidates listed the advanced features that they had used, though others claimed credit for features which are standard and not advanced, such as SUM(), simple formulas or creating a chart. A list of suitable complex features may be found in the Specification

Several candidates specifically highlighted where they stated that the spreadsheet met the client's needs. Others had inserted a section at the end of this task stating how their client's needs were met by the system. This made it clear to the examiner that they understood what they were attempting to do.

Task (i) - Evaluation

Many candidates used their evaluation criteria and the client's needs in their evaluation and so gained some of the available marks. The best candidates provided evidence in the form of test results and screenshots to demonstrate that these criteria had been met. These critical evaluations gained higher marks

Task (j) - Time planning

Most candidates did monitor their progress against their original time plan and those candidates who explained, rather than stated, any necessary alterations achieved two marks.

Task (k) - Written communication

Candidates had made a lot of effort to ensure that their work was well described, using good technical language, as well as being checked for spelling and grammar. This resulted in many candidates gaining three or four of the available marks.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website.