General Certificate of Education

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

IT13   Systems Analysis

Report on the Examination

2010 examination – June series

Unit 13: Systems Analysis (IT13)

The vast majority of portfolios sampled during the moderation process had been assessed accurately. Assessors were realistic about the quality of work that had been produced by candidates. A full range of marks was seen.

This unit is about the investigation, study of feasibility and logical analysis for a proposed system (application). Most centres correctly stopped at the logical analysis stage, although there was much evidence of assumptions being made about implementing the solution using a database package.

Many candidates followed a logical path when assembling their portfolio and produced coherent pieces of work. Some candidates planned the testing of the end solution, rather than testing of the analysis that was the subject of the portfolio. The testing required for assessment in this unit will always be for the analysis and logical design only.

For the data analysis, it is acceptable, at logical analysis stage, to have a many-to-many relationship between entities to start with. First normal form, which is the only step required in logical analysis, would create a third entity to remove the many-to-many relationship, by creating a 'linking' entity. There is no requirement to fully normalise the data at this stage as it is not known how the data will be held.

AO1 – Practical analysis work – i.e. system specification production

Row 1 – Some candidates produced accurate Data Flow Diagrams (DFDs) that went beyond level 1, gaining 2 or more marks, but very few showed clear understanding of the technique. Many 'process' boxes contained narrative rather than process titles.

Row 2 – Some candidates produced understandable process specifications either in structured English or flowchart form, but many were either incomprehensible or produced in terms of a Microsoft Access query, which is not relevant at logical analysis stage as it is not known how the system will be implemented at his stage.

Row 3 – Both an Entity Relationship Diagram (ERD) and a Data Dictionary (DD) had to be present to gain 1 mark. There were many candidates who failed to include one or the other, or their DD did not bear any relation either to their ERD or the system they were specifying. Names of entities and field names should be consistent throughout the work.

Row 4 – most candidates scored at least 1 mark for some input specifications, although there was a tendency to only include a screen design. For the higher marks annotations as to where the data in the fields was from and how it was entered are required. Extra description, on a field by field basis, with accurate spacing, data entry field sizes and positioning on screen of all text and fields is required for the top mark, as well as the validation and verification mentioned on the marking grid.

Row 5 – Most candidates scored 1 mark for some form of output design. Detail, accuracy and annotation are all required for the 2nd mark.

Row 6 – The standard ways of working for this unit are assessed through the use of correct symbols in DFDs, ERDs and DD, as well as showing sensible and logical folder and file names, version numbering and so on. Having proper naming conventions for the data fields is also necessary for the higher marks. Consistency of entity names is essential. Most candidates scored 1 mark at least, with the stronger candidates gaining 2 or 3.

AO2 – Investigation

Row 1 – Many candidates used interview and a questionnaire as their two techniques, expecting to gain 2 marks. However, questionnaires were often not an appropriate method, so if the candidate had not also used another technique (observation or looking at documentation) then they gained only 1 mark. Most candidates scored at least 1 mark here, with a substantial number gaining both marks.

Row 2 – Many centres had directed their candidates well here, so there were some excellent discussions of different investigation techniques and why they would use or not use each one. Many candidates scored 2 or 3 marks on this row.

Row 3 – The system descriptions varied from a short paragraph to a full company history, showing a clear understanding of the business processes involved for which a system is being proposed. Most candidates scored 1 mark and many scored both marks here. Although not explicitly required, a brief discussion of what is currently in place and any shortcomings would often underline the need for a new or improved system.

AO3 – Feasibility Study report

Logically, AO2 row 3 is the start point for the feasibility report and is the introduction to the feasibility discussions about the proposed new or improved system.

Row 1 – Combined with AO2 row 3, most candidates clearly showed what the system is for and most candidates also included a comprehensive list of client needs, although some were confused.

Row 2 – For more than 1 mark, candidates had to include both a High level (level 0) DFD, also known as a Context Diagram, and a description of the scope (what is included in their proposal and what is excluded – in terms of functionality or automatic links to external systems, for instance) of the proposed system.

Row 3 – Many candidates included some statements about hardware, software or personnel, but many failed to discuss what is currently in place as well as what is required to meet the requirements of the new system. Some candidates scored all of the marks available by showing the clear understanding of these issues.

Row 4 and 5 – Many candidates scored at least 1 mark on each row.

Rows 6 & 7 – these need to be distinct from each other. Row 6 is dealing with what needs to go into the system, for example what functionality is required and how important each aspect is to a successful system; row 7 is about then putting forward ideas as to what options there are for developing such a system and recommending the best one for the client.

Row 6 – Many candidates had a clear conclusion and, if they had prioritised what their system needed, then the 2nd mark was awarded.

Row 7 - Some candidates scored 1 or 2 marks on this row, but only a very few actually took their recommendations back to the client and adjusted them after feedback.

A04 – Evaluation

Row 1 – For the 1st and 2nd mark, there needed to be little evidence other than the narrative provided in a diary and on the time plan and by the production of the two analysis documents.

Row 2 and 3 – as for other A2 units.

Row 4 – Candidates could score 1 or 2 marks on the basis of their client needs and requirements given in the feasibility report (AO2, row 3), but a few managed to gain further marks by saying how they were going to test the proposed system, in logical form, against those requirements.

Row 5 – Many candidates scored no marks for testing as they thought this was to do with the finished system, whether or not they were developing it. This row assesses the candidates testing of the accuracy of the analysis. Questions that should be asked here are:: Is the scope correct? Are the DFDs correct? Are the designs, processes, and data analysis all correct? How can I get it checked, and by whom? Some candidates scored good marks on this row.

Row 6 – Some candidates scored 1 mark on this row for showing that they had checked some of the analysis with the client, and some had used an expert (generally the teacher) or a third party to look at their work.

Row 7 – Most candidates scored 2 or 3 marks for their written expression. For the higher marks on this row, the Investigation write-up, the feasibility report and the systems specification should be presented as such, with separate contents pages, headers and footers and presented properly sectionalised. Some portfolios had repeating evidence, which, unless headed as draft, final versions etc was very confusing for the reader and these candidates did not score the highest mark.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the **Results statistics** page of the AQA Website.