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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Education

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

IT13 Systems Analysis

Report on the Examination

2009 examination - June series

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Dr Michael Cresswell Director General.

Unit 13: Systems Analysis (IT13)

The unit is about the investigation, feasibility study and logical analysis for a proposed system (software application). Most candidates correctly stopped at the logical analysis, although there was much evidence of assumptions being made about the likely implementation in a database package. The logical analysis should be independent of assumptions about the software to be used.

Many candidates produced coherent pieces of work within their portfolios that were logically constructed. Some portfolios were assembled in 'AO' order, which does not present an easily readable narrative.

Some candidates planned the testing of the end solution rather than the analysis that was the subject of the portfolio. The testing required 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 DFDs that were decomposed 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 others were incomprehensible. Others were formulated in terms of an MS Access query, which is not relevant at logical analysis stage, as it is not known how the system will be implemented at this stage.

Row 3 – Both the E-R diagram and a Data Dictionary had to be present to gain 1 mark. There were many candidates who failed to include one or the other, or whose Data Dictionary did not bear any resemblance to their E-R diagram or the system they were specifying. Names of entities and field names should be consistent throughout the portfolio.

Row 4 – most candidates gained 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 comes from and how it would be entered was necessary, and extra description, on a field by field basis with accurate spacing, entry field sizes and positioning on screen of all text and fields is required for the top mark.

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

Row 6 – The standard ways of working for this unit is gained by using the correct symbols in DFDs, E-R diagram and Data Dictionary, as well as showing sensible, 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. Most candidates scored 1 mark at least, with the stronger candidates gaining 2 or 3.

AO2 – Investigation

Row 1 – Many candidates used interview and questionnaire as their two investigation techniques, expecting to gain 2 marks. However, questionnaire is not often an appropriate method, being more suitable when a larger number of responses need to be gathered, 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 many scoring 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 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 underline the need for a new or improved system.

AO3 – Feasibility Study report

Logically, AO2 row 3 is the start point for the feasibility study report and is the introduction to the 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 rather 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 was needed to meet the requirements of the new system. Some candidates gained all of the marks available by showing a clear understanding of these issues.

Rows 4 and 5 were changed this year, allowing candidates to gain marks for having a cost benefit analysis with no mention of constraints, or vice versa. Most candidates gained 1 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 – Many candidates failed to estimate the time required for each task in hours, so only 1 mark was available to them. Guidance on this had been given at standardising meetings.

Row 3 – Some candidates had monitoring comments on the time plan, or a diary, which was backed up with witness statements and were able to achieve up to maximum marks depending on the detail provided.

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 should be about testing the accuracy of the analysis :

- Is the scope correct?
- Are the DFDs correct?
- Are the designs, processes, and data analysis all correct?
- How can I get it checked, and who by?

This is the strategy required here. Only a few candidates scored any marks at all on this row or the next.

Row 6 – Some candidates scored 1 mark on this row for showing that they had checked some of the analysis with the client, and a few 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 study report and the systems specification should be presented as such, with separate contents pages, headers and footers and presented in proper sections.

Mark Ranges and Award of Grades

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