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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Education

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

IT11 Communications and Networks

Report on the Examination

2008 examination - June series

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Unit 11: Communications and Networks (IT11)

The unit concerns specifying and creating a network for a client. The portfolio need only contain evidence required for the criteria in the mark scheme – there is no requirement to include class investigations about different topologies or types of network. Some portfolios carried an excess of pages amounting to up to a third of the portfolio which did not gain any marks.

Some centres produced a 2-part portfolio – with the AO1 practical work using a centre-set scenario in a lab in the school or college. Some had a lab network setup that did not relate to anything specified, which made it harder for the candidates to provide useful high-scoring evidence against needs or criteria. Candidates who had real business clients tended to produce better quality evidence for AO2 and AO3.

More widespread use of witness statements, personalised to the candidate, is advisable where candidates need to prove what they have done. These statements should be embedded in the work rather than being attached as a single sheet added to the work as an afterthought. Teachers are advised to consult the JCQ guidelines concerning witness statements in order to ensure that they are following recommended practice.

AO1 – Practical work

Row 1 to Row 3 – Evidence for the practical work can be produced by a variety of means. Hardware and operating system software setup can be shown by photograph or by precise, individualised witness statement. Hardware or software installation and any configuration are best shown by using screenshots. Higher marks are gained for well-annotated work with explanations and justifications clearly given.

Row 4 - The implementation schedule that is being followed should be a separate, task by task, plan or checklist for putting together the specified network (produced in the work for AO3, if putting together the real network specified, or a more specific one for the practical exercise, if not). The implementation schedule is not the time plan for the whole portfolio. This implementation schedule should have time estimates (in minutes) against each very low level task. Actual time taken should be recorded and witnessed by an observer.

Row 5 – Standard ways of working specific to this unit are shown on the marking grid. Discussion of these topics should be in relation to the designed or created network and NOT the other work in the candidate's portfolio.

AO2 – Client aspects

Having a real client made a big difference to the marks gained in this section. It enabled an interview to take place, and real user requirements to be identified. These gave the basis for the planning of a network to meet those requirements.

Candidates need to show their understanding of organisational use of hardware and software, for instance: Home versions of software or single licence packages are rarely going to be valid recommendations for a business. Multiple copies of software will most likely be required, a fact very often missed by candidates.

There is no requirement to cost up the designed network for the purposes of the portfolio.

AO3 – Network specification

Row 1 – The physical plan of the office, factory or house should show major obstacles, walls, furniture etc and where the various nodes will go. Alongside this, all connections need to be shown. To get 2 marks, technical details need adding, such as types of connector, MAC and IP addresses, workstation names and so on. For the 3rd mark, a narrative is required to justify the layout.

Row 2 to Row 4 - Some candidates provided comprehensive lists of hardware, software and furniture. Many failed to relate their investigations or recommendations to the client.

The computer hardware required here is a list of all equipment required to make up the specified network. It is not necessary to go into detail about computer parts and information. Cutting and pasting information from web pages will only gain a single mark, unless descriptions, decisions and justifications are written by the candidates. Office furniture is not part of the list requirements.

Systems software includes the operating system as well as utilities such as anti-virus and firewall programs. Many candidates failed to differentiate between the operating system for the server and that for the clients. Some correctly related the software identified to the client needs.

Applications software could cover generic packages or any specific or bespoke software requirements. As stated above, home versions are unlikely to be suitable for business environments.

Row 5 – Many candidates scored well on the configuration row, as the evidence for AO1 often showed operating system, hardware and application software configurations. Configuration includes how machines on the network are set up; which is being used as a print-server, for instance; what systems and applications software needs installing directly onto which machine etc.

Row 6 – Many candidates only used the Internet for their research. If books or other sources were used, it was rare to see any explanation as to why or for what purpose.

Row 7 –The implementation schedule is for setting up and installing the specified network from AO2 and AO3 – this should show the necessary tasks in a logical order and a checklist that allows the candidate to check that all has been done. Estimates for each task should be shown in minutes. Few candidates scored high marks on this row.

A04 – Evaluation

Row 1 – Evidence for this row came from the time plan (if it had a column with suitable monitoring comments), the implementation narrative, and the narrative and evaluation that often appeared towards the end of the portfolio. Most candidates could score 1 mark here.

If this evaluation is on-going, then there should be evidence that steps have been taken to change their actions. Very few candidates were able to “critically” review their actions, usually only giving simple explanations for failures.

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.

Row 4 – There was very little evidence of testing of the network – for example, simple ping testing, printer test pages. In some portfolios, testing of the specification was evident, by taking it back to the client, or checking that after being set up the network worked for the client. Having a good and detailed test plan (next row) would enable better quality testing to be performed. Only a very small minority of candidates showed that they had taken steps to rectify failed tests. If test evidence is from a lab exercise, then a separate test plan needs to be produced, and labelled as such.

Row 5 – Evaluation criteria should be for the planned and designed network, derived from client needs. The test plan is associated with this. The test plan needs to give every step required, checking that each client computer works, each user can log on and access the areas that they have permission for, and so on.

Row 6 – This is different from row 1 in that it should objectively review the network solution as created (or specified). Again, in only a few cases did candidates "critically" review their solution to gain 3 or 4 marks.

Row 7 – Because this is a technical unit, many candidates were able to gain 2 or more marks for use of specialist vocabulary, although this had to come from their own descriptions rather than from cut-and-paste information from other sources.

Mark Ranges and Award of Grades

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