



General Certificate of Education

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

IT11 Communications and Networks

Report on the Examination

2007 examination - June series

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Set and published by the Assessment and Qualifications Alliance.

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Introduction

This was the first session with availability of all of the units for both the user and practitioner awards at A2 and the second session for AS. The general standard of work seen across the AS units showed a definite improvement over the last session. The general standard of work across the A2 units was very pleasing with much creative work seen and clear indications that candidates with a wide range of abilities are succeeding with this Specification. This of course is inevitably not true of all candidates. Many centres should be congratulated on their approach to these courses as they have embraced the meaning of Applied ICT. Some centres, however, do need to consider the approaches taken to some of the units so that they can help candidates to attain the best possible marks. Centres are encouraged to make full use of the advice, materials, such as the Teachers Guide, and training available to them and to attend the feedback meetings for the A2 units and standardisation meetings that will be held in Autumn 2007 for both AS and A2 units.

Unit 11: Communications and Networks (IT11)

General comments

As mentioned in the general introduction this was the first session when the full A2 Single and Double Award was available to candidates. Work was seen across nearly all Units that achieved the full range of marks.

It is important for centres to realise that there is a change in demand for candidates undertaking the A2 units, over that expected as AS level. The level of demand of the AS assessment is that expected of candidates half-way through a full A-Level course of study. The A2 units, set at a higher level than AS, are designed to assess knowledge, understanding and skills expected of candidates who have completed the second half of a full Advanced Level qualification.

There is also a difference in emphasis between the AS and A2 on Assessment Objectives. Emphasis in the A2 is on processes involved in producing a solution, rather than the solution itself. This means that double the marks are allocated to AO4 (28 marks) than at AS and 17 or 18 mark are allocated to AO3.

Because of the increased emphasis on processes, it is important for candidates to see the piece of work undertaken as a whole, not just as a series of sub-tasks. Where Centres had presented candidates with a given piece of work, or assignment, that was broken down into a series of mini-assignments the work presented was not coherent and often limited the marks that the candidates could obtain. It is also not in the spirit of the Specification for candidates to carry out work in this way, as it prevents them from experiencing the whole process of producing a solution for a client and makes the work produced very mechanistic.

28 marks are available for AO4 in each of the A2 units. Candidates are only able to achieve 1 mark for time management and planning unless they have included an estimate of the time they anticipate that they will require in order to complete each of the tasks they have planned to do. At AS level the candidates should have learnt the rudiments of time planning, and by A2 should be able to quantify the amount of time required for different parts of their work. It was particularly disappointing that candidates appeared unable to build on their experience at AS level in order to provide evaluation criteria that they could clearly identify as quantitative and qualitative. By the time candidates reach A2 level they should be able to create evaluation criteria that allow them to assess whether they have met the needs of the client. Test strategies and plans were weak throughout – especially on the units where there is no tangible product to test. Candidates need to consider how to test a non-working model and how to test a design.

General remarks about A2 portfolios

A well organised portfolio is easy to assess and moderate. Few portfolios had an accurate contents page; many had no headers or footers on the work included; many did not distinguish between different parts or sections of work. Consecutive page numbering from the beginning to the end of the portfolio is essential for accurate recording of assessment decisions.

The portfolios should contain only the evidence required for assessment against the marking grids, with witness statements included at the point where they are supporting the evidence. Many candidates included lots of unnecessary material – including copies of teacher-set assignments, sets of notes and class work, which did not gain any marks.

Unit 11: Communications and Networks (IT11)

The unit concerns specifying and creating a network for a client. Specification is AO2 and AO3, Implementation is AO1. It would be clearer if portfolios were put together in this logical order rather than in a disjointed way of putting an implementation first. Many candidates included class notes or information from the Internet about different types of network that gained no marks. The portfolio should only contain evidence required for the criteria in the mark scheme.

Some centres did this as a 2-part portfolio – with the practical work done for an imaginary client, using a centre-set scenario in a lab in the school or college. Others allowed the candidates to “set up” their specified networks in lab conditions. Both are acceptable. Very few implementations seen were for the real client. Candidates who had real clients tended to produce better quality evidence for AO2 and AO3. Those who used a smaller, perhaps home-based, situation without a real client, tended to provide weaker evidence for many rows. The importance of having a real client to talk to cannot be stressed enough.

More widespread use of witness statements, personalised to the candidate, is advisable for many centres where the documentary evidence was sparse. These witness statement need to be embedded in the work rather than a single sheet added as an afterthought to the work.

Assessment Objective 1 (17 marks)

Row 1 – We gave the benefit of the doubt in many cases where a witness statement said that there had been a client-server network with at least two peripherals created, where there was little or no documentary evidence. In future, it is necessary to see some evidence that both client and server have been set up and linked, plus each peripheral. Written narrative of screenshots is necessary for the justification mark, always relating what has been done back to the client’s needs.

Row 2 – Many Candidates showed enough evidence to score well on the users, groups and access levels aspects, but many also failed to explain why they had set up the access in the way that had been chosen to get the final mark.

Row 3 – Many candidates did not annotate their screen shots well. It is not necessary to evidence putting together a PC, as this is not part of the requirements for this unit. Only those practical tasks necessary to create a network need to be evidenced. Likewise, for installation of software, of whatever type, the start, maybe one intermediate screenshot and the final screen are more than enough. It is more important to explain which hardware has been attached where and which software has been loaded onto which machine, and why.

Row 4 - The implementation schedule that is being followed should be a separate task by task checklist of putting together the specified network (produced in AO3 if putting together the real network specified, or a more specific one for the practical exercise if not). This implementation plan should have time estimates (in minutes) against each very low level task. Actual time should be recorded and witnessed by an observer. This time, as it was the first run through, credit was given for some quite high level plans, sometimes taken as a row or two from their time plan.

Row 5 – Discussions of aspects of standard ways of working with the network using the list provided on the mark scheme were the requirements for even one mark. Some candidates included information about folders, ergonomics and so on that were irrelevant. Safety when working with equipment was important as well and many included photographs – a witness statement and some description would also be acceptable.

Assessment Objective 2 (7 marks)

Row 1 – Many candidates with real clients scored well on this row.

Row 2 – Where their network was a simple one, many candidates failed to go into very much detail, gaining only the first mark. For the higher marks, there needed to be a discussion of the situation, alternative relevant solutions proposed, the proposed network and why that would be a good solution for the client's problem. Many candidates referred to star networks, when they were actually proposing star-bus networks.

Row 3 – Although there is no actual requirement to have an in-depth interview, it is required to be able to state the client's needs for the network – what do they want to use it for?, how fast does it need to be?, who can access what on it?, both hardware and software, what are the client's aims for using a network?. Only by talking to the client and checking back with them the understanding of their requirements, is the candidate likely to have a "full" understanding of client needs. Only a few candidates showed full understanding of these requirements this time.

Assessment Objective 3 (18 marks)

Row 1 – Many candidates did not provide a plan of the physical space for the network, providing logical plans only. One mark was awarded for this as it was the first time for the unit, but in future such plans will not be sufficient. The requirement is for a plan of the office, factory or house, showing major obstacles, walls, furniture etc and where the various nodes will go. Alongside this, all connections need showing. To get two marks, technical details need adding, such as types of connector, MAC and IP addresses and workstation names. For the 3rd mark, a narrative is required to justify the layout.

Row 2 – The Computer hardware required here is a list of all equipment required to make up the specified network. Many candidates included information directly off the Internet, which gained just one mark and that only if network hardware was mentioned. Many only included PC specs and nothing else. Descriptions, for the 2nd mark, must be the candidate's own writing and justification must refer back to the requirements.

Row 3 – This row covers all systems software and utilities, which includes the operating system. Many candidates failed to differentiate between the operating system for the server and that for the clients. Few related the software identified to client needs.

Row 4 – Many candidates did not include Applications software at all, assuming that talking about firewalls and anti-virus programs was sufficient. Applications software could cover generic packages or any specific or bespoke software requirements. Few related applications software to client needs in any depth.

Row 5 – Some candidates failed to show that they understood what was meant by configuration. 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 and so on. For the operating system this includes which machine needs which version of the operating system, user permissions, IP and MAC addresses, as well as any particular display requirements. Application software configuration could, for instance, include standard templates and file locations. Few candidates scored both marks.

Row 6 – Only a very few candidates showed evidence of researching anything more than on the Internet. Those that did included an odd page from a magazine or book. Almost no candidates described why they had looked at these sources for their information. Some candidates thought they had to solve technical support style problems with their research, which was unnecessary.

The “problems” are to do with making the right decisions about which hardware and software configuration would best suit their client’s requirements. Stronger candidates included a bibliography and short extracts from researched information, rewording the relevant sections within their narrative; weaker candidates cut-and-pasted whole web sites that tended to be full of irrelevant details.

Row 7 – A very small minority produced detailed and logical implementation plans for setting up their specified network, scoring highly on this row. Unfortunately many did not include a separate plan for implementing the network at all. The implementation schedule is for setting up and installing the specified network from AO2 and AO3 – a logical order of tasks and a checklist as well. Estimates would be expected to be in minutes here. Credit was given this time if there were some implementation tasks (i.e. two or more) on their time plan if they offered no separate plan, so they could get a single mark on AO1 row 4.

Assessment Objective 4 (28 marks)

Row 1 – Evidence for this row came from the time plan (if it had a monitoring column), the implementation narrative, and the narrative and evaluation towards the end of the portfolio. Most candidates could score one mark here. Strengths, weaknesses and areas for improvement should be about the candidates own performance, for example, allowing more time for tasks, checking back more with the client. If this evaluation is on-going, then there should be evidence that steps have been taken to change their actions as a result of evaluating what has been done to date with an explanation as to why. Very few candidates were able to “critically” review their actions, giving simple explanations for failures.

Row 2 – without time estimates (in hours or minutes) for each task on the time plan, there is no evidence to suggest that a candidate has managed or planned their time. Estimates in days or lessons are meaningless as there is no indication as to how many hours that is.

Row 3 – although few candidates provided evidence, or a witness statement, to prove they had met deadlines, for this year only, the teacher’s mark was taken as being evidence. To gain good marks on this row in future sessions, good monitoring of the plan, with sign-off on milestone dates would provide the evidence required.

Row 4 – There was some evidence of testing of the network – for example, simple ping testing, printer test pages, but in very few cases was testing seen of the Specification, by taking it back to the client, or checking that the network once set up worked for the client. Having a good and detailed test plan (next row) would enable better quality testing to be performed. Only a small minority of candidates showed that they had taken steps to rectify failed tests.

Row 5 – Evaluation criteria, beyond a simple list of client needs and test plans were seen in only a small minority of portfolios. Candidates seem unsure of the difference between quantitative and qualitative criteria. If these are written correctly, then the test plan follows after. The test plan needs to give every step required, checking that each client works, each user can log on and access the areas that they have permission for and so on. If the creation of a network has been done as a separate exercise, the evaluation criteria should cover both scenarios and the test plan needs to show testing of both the specified network and the lab-created one.

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

Row 7 – Because this is a technical unit, many candidates were able to gain two or more marks for use of specialist vocabulary, although this had to come from their own descriptions rather

than from the cut-and-paste information from other sources. The way in which the portfolios were ordered had a bearing on the ability to show that information was organised.

Mark Ranges and Award of Grades

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