General Certificate of Secondary Education (Short Course)
January 2012

Information Communication Technology   45204

(Specification 4520)

Unit 1: Systems and Applications in ICT

Report on the Examination

General comments

The question paper/answer books completed by students during the exam are marked on-line. This makes it is easy to collect a range of statistics on each part of each question as well as those relating to the whole paper. These statistics allow AQA and examiners to see which questions were answered well and which questions students found difficult. Some of the statistics from 2012 have been included in this report.

Overall, the standard of performance from the students in the written paper was good, this is indicted by the mean of the paper being 37, which is over half marks. It is, however, worth emphasising that, in this specification, there are elements of theory that are difficult to teach through practical lessons and controlled assessment tasks alone. Some consider that these are often best taught by separate theory lessons or as starters or plenaries in practical lessons.

Unlike previous AQA GCSE ICT specifications, this paper is untiered. The statistics do indicate that most of the paper appeared accessible to the majority of students (this year, 97% of students scored 19 marks or more). In addition, few students left questions not attempted, which is a pleasing start to the short course Unit 1 of this new specification.

Section A

Question 1

In question 1(a), students were asked to give two input devices that would be used with a general purpose home desktop computer. The question was answered correctly by most students, but some gave various backing storage devices as answers.

In question 1(b), 90% of students were able to give at least one output device that could be used with a home desktop computer.

In part 1(c), many students found it easier to say what was meant by the term software rather than hardware. 83% of students were able to gain at least one mark for this part of the question an over a half of students (56%) were able gain both marks.

Question 2

In question 2a, students were asked to match words to descriptions of network devices. All parts of the question were quite well answered 2(a)(i) – 75% correct, 2(a)(ii) – 66% correct and 2(a)(iii) – 67% correct.

Part 2(b), 60% of students able to state what the abbreviations *LAN* stood for. There were some quite inventive answers from students who did not know the answer, but were keen to have a 'guess'.

Part 2 (c), just over half of students (52.3%) were able to gain both marks for describing the difference between *LAN* and *WAN*. The most common answer to gain a mark was that, 'a WAN was a global network such as the Internet'.

Question 3

In question 3 students were asked a range of questions about a spreadsheet used for a school Enterprise Day to model profit and loss.

In part 3(a), around 71% of students were awarded the mark for giving the correct answer as cell A14.

Part 3(b), a pleasing 93% of students identified the format of the data in cell A1.

Part 3(c), the vast majority were able to identify the formula used in, the cell D5 (91%).

However, in 3(d), the functions available in spreadsheets were less well known and only 35% could identify *AVERAGEUP* as not a common function. Students may have been influenced by the use of ROUNDUP in part 3(e).

Most students struggled to explain the difference between *ROUND* and *ROUNDUP* in part 3(e) and only 47% of students gained any marks for this part of the question.

Question 4

Part 4(a), the idea of a document being fit for purpose was well understood by the vast majority of students. 98% of students gained at least one mark and 53% gained all three marks.

Part 4(b), almost two-thirds of the students (66%) were able to identify 'Bar codes' as the most suitable way of collecting the information.

The most common answer to 4(c) was 'e-mail' and 95% of students gave a suitable correct answer.

Question 5

Part 5(a) was a MCQ question which gave a list of stages of the system life cycle. As many of these stages are in Unit 2, the percentage of correct answers to some parts of this question were disappointing.

In part 5(a)(i), 40% of students recognised, from the list, that this stage was the 'Feasibility Study'.

In part 5(a)(ii), 53% of students recognised, from the list, that this stage was the 'Design'.
In part 5(a)(iii), 41% of students recognised, from the list, that this stage was the 'Testing'.
In part 5(a)(iv), 60% of students recognised, from the list, that this stage was the 'Evaluation'.
In part 5(a)(v), 31% of students recognised, from the list, that this stage was the 'Analysis'.
The 'iterative review process' in part 5(b) was not well understood by most students. Although 30% of students gained one mark, only 6.5% were able explain the process well enough to gain both marks.

Section B

Question 6

In question 6 students were asked a range of questions about part of a heath club's database.

In part 6(a), 88% of students could give the correct number of records. The most common incorrect answer was 9 (the number of fields).

In part 6(b), 85% of students could give a suitable reason why the surname would not be a suitable key field.

Part 6(c) was a question which asked students to select the records which would be found using given search criteria.

In part 6(c)(i), 68% of students selected the correct two records where the ' Postcode equals LN3 1BL'.

In part 6(c)(ii), 57% of students selected the correct three records where the 'Last Name equals D*'.

Overall question 6(d) was not well answered and the concept of data validation was not well understood by most students. In fact less than half of the students (49%) managed to score any marks for this part of question 6. Many answers were very often just a repeat of the question or a vague statement to 'check everything well'. However, there were some excellent answers (15% of students gained 4 or 5 marks) showing a clear understanding of how data validation could be used to improve the accuracy of information being input into the database.

Question 7

In part 7(a), some disadvantages of buying online were well understood by the vast majority of students (83% gained both marks and 98.6% gained at least one mark).

In part 7(b), only 40% of students gained full marks. Many students simply gave a brief statement about a social network site rather than the required description.

Most students found part 7(c) accessible, and around half (49.6%) of students scored two or three marks on this question and 88% scored at least one mark. Common answers included specialist keyboards e.g. Braille keyboards and voice recognition software.

Section C

Both essay questions were tackled quite well by most of the students and over eighty percent (Question 8 – 81% and Question 9 – 86%) of students were able to score half marks (6 marks) or more. All the students made an attempt to answer one of the essay questions. Overall students appear to have performed a little better on question 15 than on question 14. As with all of the extended answer questions, the essays were all marked using a 'levels of response' rather than a 'points' mark scheme.

Question 8

Around a third of students (32%) attempted this essay question and as stated earlier, overall it was quite well answered. A wide range of sensible 'emerging technologies' were described and how they affect the way people and organisations operate and work together discussed. The most commonly seen answers revolved around the effect of:

- Teleworking in various forms
- Video conferencing
- Buying/shopping online
- Robotics
- Telephone apps

A level of response mark scheme was used to mark this question, see the published

mark scheme for more detail.

Question 9

This question was the more popular of the two essay questions and around two-thirds of students (68%) attempted this question.

A wide range of appropriate hazards and ways of avoiding them were discussed by students. The most common were:

- Phishing/scam e-mails
- Mirror-image websites
- Virus issues
- Hacking issues
- 'Stay safe' issues (especially grooming and cyber bullying)

Again, a level of response mark scheme was used to mark this question, see the published mark scheme for more detail.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the **Results Statistics** section of AQA's website.

UMS conversion calculator **www.aqa.org.uk/umsconversion**