

Computing

Advanced GCE A2 7820

Advanced Subsidiary GCE AS 3820

Report on the Units

January 2009

3820/7820/MS/R/09J

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This report on the Examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the syllabus content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the Examination.

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Advanced Subsidiary GCE Computing (3820)

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2506 Introductory Computer Systems

General Comments

There were some candidates who demonstrated a poor understanding of the most basic subject matter which was disappointing to see. Having said that, the standard was actually very high from most candidates with good presentation skills and the cohort showed a thorough understanding of most of the concepts tested in the paper.

There were a number of occasions where concepts from 2509 were offered as responses which had been covered but not properly understood and hence were inappropriate for the question asked. If the question asks for a description of alpha testing then an explanation of lexical analysis, however good, is not going to gain any credit.

Standards of English and handwriting were an improvement on recent sessions.

There were no indications of any candidates suffering from time problems. Most gave full responses to most of the questions and all questions produced a full range of possible marks.

Comments on Individual Questions

- 1 (a) Most scored 2 marks, though some thought that 'peripheral' was adequate.
 - (b) Many candidates failed to describe what it is about a batch system that makes it a batch system but instead, simply gave a characteristic of one. To say that a batch system deals with large amounts of data may be true but this is also true of other systems which are not batch systems. It does not define what makes a system into a batch system. The acceptable responses to this and other questions on the paper are contained in the published mark scheme and the reader's attention is drawn to that document for this and for all other questions.
 - (c) Almost all candidates correctly identified a real time system, but few were able to translate their understanding of such a system into the requirements for using a mouse and the relationship with the cursor.
- 2 (a) Most were able to establish a distinction between alpha and beta, but the second mark in each case was more problematic. To say, for alpha testing, that because someone in-house had found a bug it would make it easier to solve, or, for beta testing, that more testers equated to more errors being found, were not acceptable expansion points.
 - (b) Some of the marks here were very simple and proved little obstacle to candidates, however, some were more difficult to earn. The reason for PLINT being rejected and the solutions to the arithmetic and logic errors were only accessible to more able candidates and in this way the question proved a good discriminator.
 - (c) Most candidates did well here, though some did misunderstand the question, coming up with things like a description of top down design, while others included producing a modularised solution, which did not fit this question as the only thing being discussed was the single procedure shown.
- 3 (a) The advantages and disadvantages did not present any problems but the hardware and software did. The problem was that the question made clear that this was a network confined to a small office, consequently any references to the internet or to

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devices necessary to create a WAN or to combine a number of LANs were not accepted.

- (b) The three parts were deliberately graded from easy to difficult and so the responses proved. Most scored full marks on (i), by the time we reached (ii) we were seeing good answers from able candidates while for (iii) only the most able were able to understand the concepts.
- 4
- (a) I feel sure that every AS candidate knows what a record and a field are. However, finding the words to express that understanding is another matter. These are basic definitions so the examiners could only offer a limited amount of latitude to candidates.
 - (b) Some are reasonably obvious while others are a little bit more problematic. An example is the field 'Size'. This is not really applicable to a garden seat in a garden centre stock file unless it refers to 'Large, medium, small' or to '1, 2 or 3 seater'. These were perfectly acceptable, but responses that offered 'Size, real number' was not accepted. Note that 'Length, real number' was accepted as being reasonable.
- 5
- Candidates suggesting backing up the data after every sale obviously have a questionable understanding of the concepts here.

Archiving seems to elicit the standard responses with a questionable degree of understanding behind them. Candidates at this level should not be rote learning answers to fit into questions as many candidates had here, witnessed by the number who talked about the school records, rather than the 'company' in the question.

- 6
- There were some good responses to this question which proved to be another good discriminator.
- 7
- Most candidates scored well here, with the main problem for candidates being that they put everything into part a which left nothing for part b.
- 8
- The optical medium was often given as CDROM (which was accepted if the use matched it, but too often the use was given as 'to store back-ups') or as 'optical character recognition'. Surprisingly, the solid state device was poorly selected, many candidates opting for a hard drive.
- 9
- Many full marks here, although, as would be expected, the second part caused problems.
- 10
- (a) Many scored well here, though many considered that only one person would ever be allowed to use it.
 - (b) Those who understood what a multi-user operating system was scored well here. Unfortunately too many candidates think that a multi user system and a network system are synonymous, as are a multi user system and a multi tasking system.
 - (c) Most candidates were not able to suggest a sensible application.

2508 Computer Systems Development and Practical Applications

General Comments

Generally the performance of the candidates was good in this module. Performance varied from centre to centre, with some excellent answers provided by the better prepared candidates. The paper seemed to differentiate well across the range of candidates.

The layout of this question paper helped candidates with the length of the answers expected. Better candidates paid close attention to the mark allocation in each question part. Most sections of the specification are well understood by centres but section 5.3.5 of the specification continues to cause concern as evidenced by the poor performance in question 6(c) and question 6(d). Candidates were scoring low marks in questions relating to the content of this section. Candidates also need to focus on the application stated in their answers to achieve high marks. Question 4(c) was not well answered as many candidates ignored the application of batch processing.

There was evidence to suggest that the majority of centres are using previous papers, mark schemes and examination reports, in preparing candidates for this examination. All candidates seemed to have ample time to complete this examination. It was pleasing to see fewer blank spaces in answer booklets.

Comments on Individual Questions

Question 1

In part (a) the majority of candidates scored at least half marks. Candidates were able to name the feasibility factor and give an appropriate description. It should be noted that “economically feasible” is more than just money. The description should refer to “benefits outweighing the costs”. Part (b) was well answered with most candidates naming three methods of fact finding. Many answers in part(c) clearly indicated the contents of user documentation but a few candidates were using single word answers such as “specification” which were unclear and did not merit any marks. In part (d) only the better candidates were able to score. Too often answers were vague such as “fixing the system” rather than focussing on the idea of “debugging of programs” or “supporting new technical staff during training”. It was pleasing to see some good answers in part (e) including clear and concise answers.

Question 2

Although methods of changeover are well known, some candidates find it difficult applying the appropriate method in a given application. Candidates who named and described the incorrect method did not score any marks. Candidates who were able to select the most suitable method of changeover went on to achieve full marks. On few occasions candidates got confused with pilot and phased changeover methods. This was evident in part (a) as some answers correctly stated pilot changeover but then described phased changeover.

Question 3

Part (a) was not well answered as many candidates focussed their answers on the features of good interface design rather than other features of a GUI than those given in the stem of the question. It was also disappointing to see candidates being able to name a feature such as “dialogue boxes” but were unable to describe it. In part (b) many candidates reworded the stem of the question by stating “an interface that uses commands” or stated one correct feature and then reworded it again for the second and third features. The better candidates stated some

good answers using phrases such as “the syntax is critical” in their answers. Part(c) was well known by candidates stating clear features of form driven interfaces.

Question 4

Many candidates confused verification and validation in their answers to part (a) thus not scoring. Few candidates were able to clearly state definitions of both terms leading to 4 marks. Candidates need to refer to the involvement of the human in verification and the involvement of the computer in validation. Part (b) was well answered with many candidates correctly naming and describing validation checks. Part(c) was not well answered by the majority of candidates. Too often answers focussed on the features of batch processing rather than applying their knowledge to the application in the question. The candidate had to relate their whole answer to the application to achieve maximum marks.

Question 5

It was pleasing to see candidates not referring to brand names in their answers. The majority of candidates scored well in this question by naming a type of software package and giving a suitable reason for its use. On some occasions in part (iii) candidates were naming database in their answer but gave a vague reason such as “storing tables” with no reference to member records.

Question 6

Part (a) was well answered with most candidates scoring 3 out of 4 marks. Part (b) was not well answered with vague points such as “difficult to update data”. Some candidates recognised the issues with data protection when the data is sent to non-EU countries. Although candidates were able to name the components of an expert system, descriptions were often vague or a rewording of the component name. To achieve three marks for each component, candidates were required to correctly name the component and include two features in their descriptions. Part (d) proved to be inaccessible to the majority of candidates. Once again, candidates were unable to demonstrate a detailed knowledge of MIS. This question required more than a definition of a MIS.

2509 Systems Software Mechanisms

General Comments

A number of candidates produced good work in the examination: they, and their teachers, can be proud of their achievements.

However, as criticised in a number of previous reports, a considerable number of candidates wasted their time and lost marks through inadequate reading of the questions. It was common to see long but irrelevant answers from candidates who had learnt topics but failed to apply their knowledge to the questions asked.

The majority of candidates could improve their marks if they read the question then stopped to think before starting to write. Perhaps centres should stress this to their candidates. As commented after previous examinations, candidates must be aware that examiners have to be able to read the answers given. A number of scripts proved almost illegible. Also, candidates should apply some common sense and avoid writing a page or more when only 1 or 2 marks are available. The spaces provided on question papers give guidance as to the maximum amount expected for an answer.

Comments on individual questions

Question 1

- (a) Most candidates gained some marks here, though it was irritating to find a number who thought they could obtain marks by writing “used for memory management” as an answer even though it was stated in the question.
- (b) Most knew something about this, but a number confused disk thrashing with defragmentation.
- (c) Answers were often poor, as candidates did not realise that documents were stored. Many wrote about a buffer being used as the document was printed, which was not relevant here.
- (d) Many candidates knew about scheduling, though few gained full marks. The most common error was to describe scheduling instead of explaining reasons for its use.

Question 2

- (a) Most gained some marks, but few candidates gained all 5 marks.
- (b) Some wrote only about optimisation, others wrote that code generation “generates code”. Happily, a number of centres had ensured their candidates had learnt this topic and those candidates gained full marks.

Question 3

- (a) Most gained marks here, though some confused the accumulator with the program counter.
- (b) Many did not recognise the description of a parallel processor and it was clear that many guessed an answer in (i). Despite that, most candidates were able to gain some marks in (ii).

Question 4

- (a) It was disappointing to see that a few candidates were unable to demonstrate a binary search.
- (b) This was answered quite well, though a number of candidates gave the same answers in (i) and (ii).
- (c) A minority of candidates gained full marks here. These had clearly been taught well and understood the principle of a quick sort. Some were able to complete (i) by one of the two standard methods, but did not understand sufficiently to answer the remainder of the question. It was disappointing to see a large number of attempts at insertion or bubble sorts. For those who use a pivot for the quick sort, it would be useful to remind candidates they should choose a number from the middle of the list as their first pivot – those who attempted to use the first or last number invariably had difficulties.

Question 5

- (a) Despite the programming work done in Module 2507, this question proved the most difficult for a large number of candidates, to the extent that examiners are left wondering how much help is provided to candidates when programming. Very few candidates could describe a parameter: most guessed it was a range of numbers, such as that used in validation.
- (b) This was also poor. Many candidates thought the generations related to high and low level languages.
- (c) Again, few candidates gained good marks here. Many assumed “functional” meant that the program worked correctly, not realising it was a technical term. While candidates are not required to program in such languages, they should at least be aware of them and learn some basic definitions in preparation for examinations.
- (d) A few candidates noticed the printing error in the diagram provided. The mark scheme was adjusted to allow alternative answers using “#” and “&” to avoid any disadvantage to candidates. Most candidates gained full marks here.

Question 6

- (a) The majority gained good marks here, though a surprising number thought the diagram showed a relational database.
- (b) This was intended to be one of the easier questions on the paper. Instead, though some candidates gained full marks, a large number showed little knowledge of form design.
- (c) Answers here were poor. Many guessed that the data dictionary held “a list of words”.

Question 7

It was pleasing to see a considerable improvement in answers about this topic than had been shown when similar questions have been asked previously. Most gained good marks here.

2510 Computing Project

While there were slightly more entries for this session than in previous years the January session attracts only a small number of entries and it is difficult to imply any general trends or issues. As I have noted before, this unit has been available for some time now and centres have generally developed strategies to ensure candidates achieve the best marks possible.

As usual the majority of entries were ACCESS databases with just a few coded projects. The vast majority of the entries were well organised solutions to realistic problems discussed with a suitable end user. Where projects did not achieve good marks it was often due to the lack of a genuine end user to advise of the nature and development of the solution for a valid purpose. The lack of such guidance often leads to ill conceived solutions that do not solve the problem and simplistic, ineffective solutions that do not offer the candidate the scope to cover all the required elements for this unit.

The administration by centres was mostly excellent with the vast majority sending work to the moderator well before the deadline, there were few errors in the administrative procedures and the projects usually had accompanying notes on how the work was assessed to aid the moderation process. I would like to thank all those teachers who made the effort to smooth the moderation process this session.

2511 Integrated Information Systems

General Comments

As usual at this time of the year, the entry for this examination was small. However, there were still a number of candidates who were not ready to take this examination. The quality of language has shown some signs of improvement although there are still some candidates who find it difficult to communicate their answers. This poor command of language also shows itself in the way some candidates do not interpret the questions correctly. This was demonstrated by answers to Questions 1, 2(c), 4 and 5(b).

Comments on Individual Questions

- 1 (a) Too often candidates ignored the scenario and so gave generic answers which were not acceptable.
- (b) Lack of command of English led to some very contorted answers. However, a number of candidates produced good answers.
- (c) Some good answers were seen but a number of candidates went too much into details of the database which were not required.
- (d) Half marks were common but few candidates gave very good answers to part (i). Part (ii) was quite well answered.
- (e) Part (i) was well answered but few candidates could describe either an array or a list. Most candidates knew that an array is a static structure and a list is a dynamic structure.
- (f) A well answered question.
- 2 (a) On the whole this was well answered but many candidates dropped a mark by only giving one relationship. Many-to-many is too vague on its own, some mention of the entities taking part in the relationship is required. In (iii) most candidates did not put the crow's feet on the link entity.
- (b) Candidates knew about foreign keys but could not clearly describe them nor use them properly.
- (c) The main problem here was that candidates did not relate their answers to the scenario. This led to very general answers which were not acceptable.
- 3 (a) Quite well answered.
- (b) Many candidates appeared to have not come across syntax diagrams.
- 4 (a) Very varied answers with one of the problems being that answers did not reflect the scenario.
- (b) This was not as well answered as expected, especially as candidates must have seen user manuals and should be writing a technical manual for their project.
- 5 (a) Descriptions were generally satisfactory although they were sometimes ambiguous.
- (b) Not well answered. Reasons for the choice of method were very poor.

Grade Thresholds

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Unit Threshold Marks

Unit		Maximum Mark	A	B	C	D	E	U
2506	Raw	90	66	60	54	48	43	0
	UMS	90	72	62	54	45	36	0
2507	Raw	120						0
	UMS	120						0
2508	Raw	90	66	58	51	44	37	0
	UMS	90	72	62	54	45	36	0
2509	Raw	90	74	66	59	52	45	0
	UMS	90	72	62	54	45	36	0
2510	Raw	120	100	88	76	65	54	0
	UMS	120	96	84	72	60	48	0
2511	Raw	90	66	59	52	45	39	0
	UMS	90	72	62	54	45	36	0

Specification Aggregation Results

Overall threshold marks in UMS (ie after conversion of raw marks to uniform marks)

	Maximum Mark	A	B	C	D	E	U
3820	300	240	210	180	150	120	0
7820	600	480	420	360	300	240	0

The cumulative percentage of candidates awarded each grade was as follows:

	A	B	C	D	E	U	Total Number of Candidates
3820	15.5	39.1	70.0	90.9	99.1	100	110
7820	7.1	28.6	64.3	100	100	100	15

For a description of how UMS marks are calculated see:
http://www.ocr.org.uk/learners/ums_results.html

Statistics are correct at the time of publication.

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