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Computing 6510

CPT1 Computer Systems, Programming and Network Concepts

Report on the Examination

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Registered address: AQA, Devas Street, Manchester M15 6EX
Dr Michael Cresswell Director General.

General

This paper continued the trend of previous papers with questions where candidates were able to draw on their own practical experiences, and there is good evidence that candidates benefit from this; there were fewer very weak papers seen. Weaker candidates however continue to fall foul of some basic principles of examination technique - simply re-arranging the words in the question, for example for question 4(a) “the tail pointer points to the tail of the queue” does not gain candidates any credit.

Some candidates need to appreciate that although they may see questions on this AS paper which are very similar to those seen previously on a GCSE or other Level 2 examination paper, the answers considered acceptable at AS level will certainly demand more.

Question 1

(a) This is a good example of the final point above. “Hardware can be touched/software cannot” or the phases “tangible/intangible” type answers are not acceptable for AS level. Although the phrasing of the question was different from that on previous papers, the expectation from the mark scheme was no different. Candidate usually scored for the hardware mark but the software mark proved more elusive.

(b) Well answered by the majority of candidates.

Question 2

This was a similar style of question to that previously set and candidates scored well. Some candidates failed to read the rubric of the question ‘no letter should be used more that once’ and so lost a possible mark.

Question 3

(a) and (b) By and large was well answered with most candidates scoring the full 4 marks.

(c) Most candidates were aware that there was something wrong with the bit pattern, but the reason was often poorly expressed. Worryingly, there were a significant number of candidates (including all of those from one centre) who said that 0000 did not represent a BCD digit.

Question 4

This was the first time this topic was assessed with a question like this, but it was well understood by most candidates.

(a) This mark proved elusive for the majority, as an answer which suggested the pointer indicated a location or address value was required. The majority of answers seen simply suggested that “it indicates the end of the queue” and was considered insufficient.

(c) The diagram generally scored well. A common error was to leave the head pointer at address 0.

(d) This was another question where candidates were often let down by their poor expression; the examiner often suspected that the candidate knew that continual addition would result in the queue running out of space, but the candidate was unable to express this. Answers which vaguely stated that the queue "runs of out addresses" were considered insufficient.

Weaker candidates simply said that continually changing the pointer values would prove difficult to keep track of, with the implication that this was a human task and not performed by the computer. Some candidates suggested wrongly that head and tail could reach the same value at which point the queue would become unusable.

Question 5

This question was deliberately scenario-based and worded in such a way as to rule out 'definition type' answers. Despite the rubric wording 'Use this example to explain …' many candidates - including the stronger ones - still gave definition answers without referring to the scenario and so did not score.

Question 6

(a) Despite an extensive (and perhaps 'generous') mark scheme list it was rare for candidates to score more than 1 mark, and this was usually for a "selection/iteration" answer.

(b) (i) Candidates often failed to score three easy marks. The inclusion of <Space> or other illegal characters used in the identifier names was penalised once only. The other common error was the suggestion of incorrect data types, the most common being 'Number' and 'Decimal'. However, this was answered significantly better than on previous papers.

(ii) Despite a question of this type not having been set previously, it was clear from answers seen that candidates knew what was required. The most common error was simply not to make the connection between part (b)(i) and (b)(ii); for example, by introducing new identifiers to answer (ii) which gained no credit.

Question 7

(a) The majority of candidates scored the full 3 marks.

(b) (i) A surprising number of candidates did not score marks on this question. There were many different wrong answers including, for example, "Ultra Slim Build" and "Uniform Byte Synchroniser".

(b) (ii) Most correctly stated parallel.

(iii) There were a variety of ways the candidate could score the 2 marks. For example, by focussing on the word, protocol and describing this as a set of rules for communication. The most common answers gave particular signals which are exchanged between the two devices.

(iv) There were few correct answers seen here despite an exhaustive list of possibilities on the mark scheme. Many candidates confused this scenario with the use of signals on the control bus of the motherboard.

(v) This was poorly answered. The vague term 'printer software' was not considered acceptable. Printer driver was common from the stronger candidates together with "word processing software" or even "the applications program from which the document is being printed". Few mentioned the operating system. Other common wrong answers were the suggestion that the data file to be printed was software, or describing the ASCII code table (referring back to part (a) of the question) as software.

Question 8

(a) (i) A variety of possible answers were on the mark scheme but the better candidates were clear that an Intranet refers to the content which LAN users are able to access.

(ii) Answers were often vague but did still gain credit as they could be inferred from links or other web page content shown in the diagram.

(b) This question has now been asked on several previous papers but there are some candidates who are still giving answers which are insufficient. On what is potentially an easy question – and again, which is embedded in their student experience – answers were often weak. The key word in the stem of the question was 'explain' so answers such as "world wide web" are not a sufficient answer where the requirement is to explain. For the explanation of the .uk, candidates must appreciate there is a significantly different interpretation of their answer depending on their use of English; "based in" – "hosted in" – "registered in" all have very different meanings.

Question 9

A general observation was that candidates scored significantly better with tracing the algorithm than with the first part of the question where they were asked to recognise various components of the given program.

(a) Almost all candidates got the idea that the program was calculating a weekly total. Very few stated for the second mark that it output the result.

(b) (i) A common error was to copy the first assignment statement which appeared, ignoring the rubric that it should 'perform a calculation'.

(ii) A common error was the statements that RejectTotal:=0 was a declaration statement.

(iii) Very few answers scored here. The most common (wrong) answer was that it represented the day of the week.

(c) This should have been an easy two marks. Common errors were for candidates to introduce their own output messages, or to use incorrect logic; typically where the equality condition produced both messages.

A wide variety of answers were considered acceptable including the use of two separate IF statements.

(d) This is only the second paper on which an explanation of the use of library programs was required and it is clearly still not well understood. The most common correct answers were that library programs are pre-written code which has the potential for re-use or code which is purchased from 3rd party suppliers. Such answers were however rare and there were far too many vague answers with statements such as “their use will make life easier for the programmer”.

(e) An encouraging sign on this paper, continuing on from June 2006, is much improved answers seen for the trace table question, especially as this question contained a procedure which had not appeared in previous questions.

Mark Ranges and Award of Grades

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