External Assessment Report 2010

Subject	**Computing**
Level	**Higher**

The statistics used in this report are pre-appeal.

This report provides information on the performance of candidates which it is hoped will be useful to teachers/lecturers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding. It would be helpful to read this report in conjunction with the published question papers and marking instructions for the Examination.

Comments on candidate performance

General comments

The 2010 paper was generally well received by candidates, centres and the press. The general tenor of opinion was that the paper was fair and within the grasp of a prepared candidate.

The number of candidates being presented for Higher Computing continues to rise year on year.

There were no changes to the overall structure of the paper since last year. However the language and style of questions was examined in the light of feedback from stakeholders to ensure that all sections of the paper were accessible to any prepared candidate and that the final award gained would be comparable with that gained in other subjects at Higher.

The average mark gained by candidates in the actual examination showed a modest increase, to 60.3 marks out of a possible 140. The average gained for the Coursework has recovered somewhat, rising to 44.5 out of 60 marks. Overall, this has led to an increase in the pass rate and a decrease in the number of 'no awards'.

Markers continue to report issues with the poor standard of written English in many candidates. A significant number of candidates also experienced difficulties responding to questions as a direct result of not reading the questions properly and/or not answering in the context of the scenario given in the question. This has contributed to the standard of many responses being below that expected in Higher Computing. Candidates continue to give rather sparse and simplistic responses, lacking the technical detail required at Higher level. Explanations and descriptions should refer to the scenario, where present, and should aim to include a number of facts/stages/details proportional to the marks offered. Initial analysis indicates average marks of 14.4 out of 30 gained in Section I, which is populated entirely by level C questions attainable by those who have passed the NABs. In Section II, consisting of more challenging context-based questions, the average was 28.6 out of 60. The averages in these sections in 2009 were 14.8 and 25.3 respectively.

Analysis has supported marker observations that more candidates appear to be better prepared for the examination, with around 10.5% gaining less than 70 marks out of 200 for the examination and Coursework combined. Centre estimates were more closely in tune with actual performance than in previous years — centres estimated that 19% of candidates presented would gain no award, which was similar to the final figure.

The approximate proportions of candidates attempting each of the three Units in 2010 were 39% for Artificial Intelligence, 25% for Computer Networking, and 36% for Multimedia Technology. The total of the averages for each question in the optional topics is 22.5 for Artificial Intelligence, 21.4 for Computer Networking, and 19.4 for Multimedia Technology.

In the following sections the comment on each question analysis is accompanied by an average mark gained. This derives from analysis done using over 95% of candidate responses and therefore is a good indicator of the average performance of Scottish candidates in Higher Computing in 2010.

Much more detail is given than in previous years. If feedback from centres shows this level of detail to be useful, it will become the norm in future years, otherwise it will revert to commenting only upon those parts which were done very well or very poorly.

Candidates are deemed to have performed well in a question if the average mark gained was 50% or more of the total available.

Areas in which candidates performed well

Section I

Question 2b (average 0.6 out of 1) was answered moderately well by most candidates.

Question 4 (average 0.7 out of 1) was answered well by the majority of candidates, most giving the simple answer of 'to act as a buffer'.

Question 6 (a) (average 0.5 out of 1) was met with few completely erroneous answers. Most unsuccessful candidates failed to gain the mark by truncating the name of the 'Copyright, Designs and Patents Act' to 'Copyright Act' or similar.

Question 6 (b) (average 0.9 out of 1) was very well done, with most candidates giving very clear responses.

Question 8 (average 1.1 out of 2) was successfully attempted by those who noted that there were two marks on offer and gave a comparison mentioning both hub and switch.

Question 9 (a) (average 0.6 out of 1) was a simple test of knowledge of the 'real' data type. Well prepared candidates had a ready definition to hand.

Question 9 (b) (average 1.2 out of 2) was well answered. Most candidates responded that an 'array' was required, but the mark for the 'Boolean' was lost by many who did not read the question carefully.

Question 10 (a) (average 1.4 out of 2) was done very well by most candidates, as they were able to show that good design can positively influence later stages in the development of software.

Question 10 (b) (average 1 out of 2) often drew simple, one line, responses that lacked detail. Better candidates noted that the question was worth two marks and therefore made two clear points.

Question 11 (b) (average 0.6 out of 1) was done reasonably well by many candidates.

Question 11 (c) (average 0.6 out of 1) allowed most candidates to demonstrate that they understood the ongoing role of the programmer in the development of software.

Question 12 (b) (average 1.1 out of 2) was well done. The majority of candidates gained a mark here, with many going beyond the simple response to gain the second mark for 'with little or no change'.

Question 13 (average 0.7 out of 1) was done very well, with most candidates going for ‘creating macros’.

Section II

Question 14 (a) (average 0.9 out of 1) was done very well by the vast majority of candidates.

Question 14 (c) (i) (average 1.1 out of 2) was done well by many candidates. Some answers merely stated a fact about bit depth, rather than describing an advantage for two marks.

Question 14 (c) (ii) (average 1.2 out of 2) was also done well by most candidates.

Question 14 (c) (iii) (average 2.3 out of 3) was done very well by most candidates. Those who lost marks, most commonly missed multiplying by 600 twice. Layout of the calculation played a crucial role in success here.

Question 14 (e) (average 1.1 out of 2) was done well by most candidates, giving a fact plus an explanation of the benefit gained by solid state.

Question 14 (f) (average 1.1 out of 2) was done well by most candidates.

Question 15 (a) (average 2 out of 3) was done very well by most candidates. Good layout aided many.

Question 15 (b) (average 1 out of 2) was done reasonably well by most candidates, although many merely stated a fact about cache rather than show how it improved system performance. A minority of candidates answered in terms of the caching of web pages.

Question 15 (c) (average 1.3 out of 2) was done well by the majority of candidates, with most going for OS compatibility.

Question 15 (d) (ii) (average 0.9 out of 1) was done very well by the majority of candidates.

Question 16 (a) (average 1 out of 2) was done reasonably well by many candidates. Most identified the type as string, but many could not articulate a valid reason why this was the case.

Question 16 (d) (average 0.9 out of 1) was done very well by the vast majority of candidates, even those who had already answered ‘concatenation’ for part b.

Question 16 (g) (average 1.5 out of 2) was done very well by most candidates.

Question 16 (h) (i) (average 0.8 out of 1) was done very well by most candidates.

Question 17 (b) (average 0.6 out of 1) was attempted well by most candidates.

Question 17 (c) (average 0.7 out of 1) was done very well by most candidates.

Question 17 (d) (i) (average 1.2 out of 2) showed most candidates able to identify the two parameters that need to be passed, although some wrongly repeated the names of the two variables used within the loop (floor number and room number).

Section III

Part A

Question 18 (a) (i) (average 0.6 out of 1) was done reasonably well by well prepared candidates, although a good definition should be able to be given by the majority of candidates.

Question 18 (a) (ii) (average 1 out of 1) was done universally well.

Question 20 (a) (i) (average 1.1 out of 2) was done reasonably well by most candidates.

Question 20 (b) (average 0.7 out of 1) was done very well by most candidates.

Question 21 (a) (average 1.6 out of 2) was done very well by most candidates. Many wrong answers omitted the 'X=', as specified in every set of marking instructions published.

Question 21 (b) (average 1.8 out of 3) was done reasonably well by most candidates. Many responses used 'older' rather than 'earlier' as the predicate.

Question 21 (d) (average 0.6 out of 1) has been asked many times in the past, but some candidates are still unable to repeat a simple definition.

Question 22 (a) (average 0.8 out of 1) was done extremely well by candidates. Please note that, if the extended version including revisited states is used, all revisited states need to be included. A minority of candidates did not read the question and continued beyond the goal state.

Question 22 (b) (i) (average 0.6 out of 1) was done well by candidates.

Question 22 (c) (i) (average 0.9 out of 1) was done extremely well by candidates.

Question 22 (c) (ii) (average 1.1 out of 2) was done well by the majority of candidates. Good answers used the tree given to illustrate the response, as required by the question.

Part B

Question 23 (c) (average 1.1 out of 2) was done well by those candidates who could justify their choice of class C. The majority of well prepared candidates gained the first mark, for identifying the class.

Question 23 (d) (i) (average 0.6 out of 1) was done well by many candidates.

Question 22 (d) (ii) (average 1.1 out of 2) was done well by many candidates. Several responses confused 'walled garden' with 'internet filtering'. A simple description of what happens with a non-listed URL in each case would have clarified this.

Question 23 (e) (average 1.3 out of 2) was done well by the majority of candidates.

Question 23 (g) (average 1.8 out of 2) was done extremely well by the vast majority of candidates.

Part C

Question 25 (a) (ii) (average 0.5 out of 1) seemed to elicit a variety of incorrect answers from candidates.

Question 25 (c) (average 1.1 out of 2) was done well by candidates who understood the difference between megabytes and megabits.

Question 25 (e) (average 1.1 out of 2) was done well by the majority of candidates.

Question 25 (f) (average 0.5 out of 1) was done well by those candidates who noted that the question asked about ‘using software to carry out a denial of service attack’.

Question 25 (g) (ii) (average 0.6 out of 1) drew out better responses than part (i), although some candidates incorrectly thought that the access to cheaper goods was a social implication.

Question 27 (a) (average 1.6 out of 3) was done well, although Higher responses require more detail than was offered by many candidates.

Question 27 (b) (average 2.9 out of 4) was, like most of the calculations, done very well by the vast majority of candidates. Good layout of the working is clearly the key to success here.

Question 28 (a) (average 0.6 out of 1), though done reasonably well by most, elicited Standard Grade level responses from many candidates.

Question 28 (c) (i) (average 0.7 out of 1) was very well done by the vast majority of candidates.

Question 28 (d) (average 2.2 out of 3) was very well done by the majority of candidates.

Areas which candidates found demanding

Section I

Question 1 (average 0.3 out of 1) was poorly done by the majority of candidates. More than half of candidates responded with 211, a simple translation of the binary, rather than carry out the required two’s complement conversion.

Question 2 (a) (average 0.7 out of 2) was answered by many candidates in terms of actions of anti-virus software rather than ‘virus code actions’ as per the written question.

Question 3 (average 0.8 out of 2) drew many unclear and repetitive responses, not giving both of the possible answers stated in the Arrangements document.

Question 5 (average 0.7 out of 2) was done poorly by many. Some candidates gave unnecessary detail dropped from examinable content in 2000. Many candidates omitted all or part of the final stage, namely 'decode and execute the instruction'.

Question 7 (average 0.4 out of 2) was very poorly done. The majority of candidates seemed to ignore the end of the actual question, failing to answer 'in terms of transmission media', and simply compared LANs and WANs in terms of geographical spread.

Question 11 (a) (average 0.2 out of 1) was very poorly done. Many candidate responses suggested that they had not read the question. Some candidates who had focused upon the implementation stage gave the ambiguous answer of 'code'.

Question 12 (a) (average 0.3 out of 2) was very poorly done, with many responses ignoring that the question explicitly asked about 'memory usage'.

Section II

Question 14 (b) (i) (average 0.5 out of 2) was not done well by most candidates, as they gave generic answers rather than focusing upon how the functions were involved 'in this transfer'.

Question 14 (b) (ii) (average 0.9 out of 2) was done well by most candidates that read the question. Many wrong answers stated examples of data format conversion.

Question 14 (d) (average 0.2 out of 2) was done very poorly by most candidates, as they did not answer the question as stated. Generic answers about the two functions, not in context of the data transfer from memory to hard disk, were very common.

Question 15 (d) (i) (average 0.5 out of 2) was not done well by most candidates, as they merely stated facts about the two methods rather than explaining why MIPS might be the better measure.

Question 15 (e) (average 0.5 out of 2) was not done well by most candidates, with vague answers like 'because they have the same rights' being common. Many candidates simply ignored the context.

Question 16 (b) (average 0.3 out of 1) found most candidates wrongly identifying the operation as concatenation or omitting the question.

Question 16 (c) (average 0.9 out of 3) was not done well by the majority of candidates, many of whom chose to ignore the stem and answer using IF statements.

Question 16 (e) (average 0.6 out of 2) was not done well by many candidates. Most wrong answers did not identify ASCII as requiring 8 bits per character, although some did not multiply by 6 characters. A significant minority counted the number of letters in the variable name 'DateofBirth', so used 11 in their calculation.

Question 16 (f) (i) (average 0.6 out of 2) was not done well by most candidates, despite this being a common exam question.

Question 16 (f) (ii) (average 0.4 out of 1) was not done well by most candidates, with most wrong answers stating a feature that is commonly found in procedural languages.

Question 16 (h) (ii) (average 0.5 out of 2) was not done well by most candidates, with most offering a simple fact about global variables rather than answering the question.

Question 17 (a) (average 0.5 out of 2) was not done well by most candidates, as the context was ignored despite highlighting in the question. Erroneous answers regarding the compiler's ability to 'translate the whole code in a single operation' were common.

Question 17 (d) (ii) (average 0.9 out of 2) found that most candidates could not justify their response.

Question 17 (e) (average 1.7 out of 5) was done extremely poorly by most candidates, despite the fact that knowledge of standard algorithms is central to the Coursework. Many markers highlighted that poor layout of the algorithm, particularly in showing the end of loops and IF statements, compounded a basic lack of understanding for many candidates.

Section III

Part A

Question 18 (a) (iii) (average 0.7 out of 2) showed an inability to express the benefits of using simple games to investigate AI in many candidates.

Question 18 (b) (i) (average 0.9 out of 2) found many candidates struggling to respond with two distinct aspects. Many responded that the ability to see was an aspect of intelligence.

Question 18 (b) (ii) (average 0.7 out of 2) had many candidates struggling to connect their responses to part (i) to game playing.

Question 18 (c) (i) (average 0.7 out of 2) has been asked many times before and should have been fairly straight-forward marks for the well prepared candidate. Some candidates merely defined parallel processing rather than answer the question.

Question 18 (c) (ii) (average 0.9 out of 2) was done reasonably well by well prepared candidates, although the majority gave vague generic responses.

Question 19 (a) (average 0.2 out of 1) was done very poorly by candidates, with many describing layers of neurons rather than comparing individual neurons.

Question 19 (b) (average 0.6 out of 2) showed a lack of any detailed knowledge for many candidates.

Question 19 (c) (i) (average 0.4 out of 1) was a simple vocabulary test which showed a basic lack of revision by many candidates.

Question 19 (c) (ii) (average 0.1 out of 1) was done very poorly by candidates, with only a minority able to attempt a response. The most common correct response was the presence of a large set of examples where the output is known.

Question 19 (d) (average 0.5 out of 2) was challenging for most candidates. Successful responses tended to focus upon the ease of reprogramming rather than having to rebuild the hardware.

Question 20 (a) (ii) (average 0.9 out of 2) was often not answered in the context of the question.

Question 21 (c) (average 2.7 out of 6) was done well by many candidates. Good layout clearly helped candidates follow the logic of their answers and correctly show the trace. Too many candidates omitted 'output X= dodo' from the final line and, accordingly, the value of practising the trace was very clear.

Question 21 (e) (i) (average 0.9 out of 2) was done well by some candidates. Most unsuccessful answers did not use the 'older' predicate as a label or did not use an arrow to show direction of the relationship. Many candidates seemed to think more was required and gave a larger semantic net.

Question 21eii (average 0.4 out of 2) was not done well. The majority of candidates can use, but have no demonstrable understanding of the structure of, semantic nets.

Question 21 (f) (average 0.2 out of 1) was very poorly done, demonstrating that candidates' knowledge of declarative languages, beyond the simple fact that they use facts and rules, is scant. This is surprising in candidates who have studied AI.

Question 22 (b) (ii) (average 0.3 out of 1) was done very poorly by candidates. Answers should focus upon the fact that the first solution found will always be the shortest path.

Question 22 (d) (average 0.6 out of 3) was done very poorly by candidates. Detailed knowledge of the heuristic search method was not evidenced by the responses.

Part B

Question 23 (a) (average 1.2 out of 3) was not done well by the majority of candidates. The final mark, for the fact that the DNS returns the IP address to the browser, was missed by those who did not read to the end of the question.

Question 23 (b) (average 0.7 out of 2) was done poorly, with many candidates offering other examples of hacking or fraud rather than answer the question as stated.

Question 23 (f) (average 0.8 out of 2) showed that candidates have little grasp of how a spider operates in the building of an index to be used in later searches. The quality of responses for meta-search was good.

Question 23 (h) (average 0.7 out of 2) was not done well by those candidates who did not read the question properly. Responses that did answer in terms of changes to the code often did not specify that a meta-tag should be added (to the head section).

Question 23 (i) (average 0.7 out of 2) was not done well, in that many candidates still do not know that a Trojan is not a virus. Descriptions of the named virus type were often poor.

Question 24 (a) (i) (average 1.9 out of 4) was done reasonably well by those candidates who had prepared well. However over 20% of candidates studying Computer Networking missed out this four mark question entirely.

Question 24 (a) (ii) (average 0.4 out of 1) suffered from the same general lack of knowledge demonstrated in part (i).

Question 24 (b) (average 0.6 out of 2) was done poorly by the majority of candidates, with only the best able to demonstrate any detailed knowledge of the difference between circuit and packet switching.

Question 25 (a) (i) (average 0.4 out of 1) was a simple recall task and showed a lack of knowledge of the tasks done by the session layer.

Question 25 (b) (average 0.4 out of 2) was done poorly, with the majority of candidates demonstrating little knowledge of synchronous/asynchronous transmission.

Question 25 (d) (i) (average 0.4 out of 1) was not done well. Candidates failed to specify a *wireless* NIC, although some thought that the router was present in the computer.

Question 25 (d) (ii) (average 0.3 out of 1) was not done well by the majority of candidates.

Question 25 (g) (i) (average 0.4 out of 1) was sketchily done by many candidates, offering vague answers like ‘access to the internet’ that did not answer the question.

Question 26 (a) (average 0.6 out of 2) was not done well, with many candidates merely describing the two checks rather than answering the question.

Question 26 (b) (average 0.7 out of 2) was also not done well, with candidates offering vague responses such as ‘checking takes time’, which is not sufficient to gain full marks in a two mark question.

Question 26 (c) (average 0.6 out of 2) was not done well by those candidates who failed to read the question, which asked about software techniques.

Question 26 (d) (i) (average 0.4 out of 2) was poorly done by the majority of candidates, who generally offered vague Standard Grade level responses about making backups.

Question 26 (d) (ii) (average 0.4 out of 2) was also poorly done, with some candidates offering exactly the same wording they used in part (i).

Part C

Question 27 (c) (i) (average 0.1 out of 1) was very poorly done by the vast majority of candidates, who tended to offer dithering as a response instead of CLUT.

Question 27 (c) (ii) (average 0.1 out of 2) suffered from the performance in part (i), with many candidates not reading the question. Those few who had answered CLUT in part (i) often had a poor understanding of how it operates.

Question 27 (d) (average 0.5 out of 2) was not done well, as most candidates studying Multimedia Technology could not describe the LZW other than to say that it removes some detail from the file.

Question 28 (b) (average 0.2 out of 1) was very poorly done. The majority of candidates tended to offer MP3, despite it being a lossy method.

Question 28 (c) (ii) (average 0.7 out of 2) showed that, whilst the vast majority of candidates can identify when normalisation is used, far fewer have an adequate understanding of how it operates.

Question 28 (e) (average 0.3 out of 2) was poorly done, with candidates offering simplistic responses about having more speakers rather than an explanation of an advantage over stereo. More detail is also required for a two mark question at Higher level.

Question 28 (f) (average 0.8 out of 2) showed that, despite being asked in the past, candidates are not able to give a detailed description of MIDI. Approximately 15% of Multimedia Technology candidates did not answer this question at all.

Question 28 (g) (average 0.2 out of 2) was very poorly attempted by candidates. Over 10% of Multimedia Technology candidates were unable to give any description of MIDI and missed out this question.

Question 29 (a) (average 0.9 out of 2) showed that few candidates have an adequate understanding of how Bluetooth operates. Many candidates ignored the context entirely.

Question 29 (b) (i) (average 0.3 out of 1) was generally answered poorly, with candidates offering ambiguous answers (such as USB, without identifying USB2) or a range of incorrect answers (such as serial or parallel). Many candidates just left the question blank.

Question 29 (b) (ii) (average 0.3 out of 2) suffered from poor responses in part (i), with 10% of Multimedia Technology candidates missing out this part entirely.

Question 29 (c) (average 0.4 out of 2) was not done well. The majority of candidates cannot distinguish between hardware and software codecs and gave vague responses. One in eight candidates offered no response at all.

Question 30 (a) (average 0.8 out of 2) was done well only by those candidates who understood the question. The question asked for benefits to the developer but many offered generic benefits of WYSIWYG.

Question 30 (b) (average 1.1 out of 3) was answered effectively by well prepared candidates. However, many answers lacked real detail and one in eight candidates offered no response at all.

Question 30 (c) (average 0.4 out of 2) was not done well. Candidates often gave sparse answers, lacking in any real detail. One in eight candidates did not answer the question.

Question 30 (d) (i) (average 0.8 out of 2) was done well only by those candidates who read the question and answered in context.

Question 30 (d) (ii) (average 0.2 out of 1) was done very poorly by the majority of candidates.

Question 30 (e) (average 0.6 out of 2) was not done well, with candidates offering vague responses.

Question 31 (a) (average 1.3 out of 2) was done well only by some candidates.

Question 31 (b) (average 1 out of 2) was done well by some candidates, but most could only offer depth as a single response.

Question 31 (c) (average 0.4 out of 1) was answered correctly by less than half of candidates. Some opted for a generic response of ‘vector’ rather than answer in context of 3D.

Advice to centres for preparation of future candidates

The context of a question is important. If a candidate does not link their answer to the scenario it will fail to attract marks.

Candidates must ensure that they read the whole question. Too many candidates missed out marks through careless misreading, for example describing the geographical difference between a LAN and a WAN rather than what was asked.

The level of response required at Higher is greater than that required of Credit or Intermediate 2 candidates. Candidates should not offer answers like ‘it is easier/quicker/cheaper’ without some corresponding justification of why they are easier/quicker/cheaper.

In topics where Core and Options overlap, the Options have more detail and candidates are therefore expected to go further within their responses.

Candidates should work steadily throughout the year, making notes and learning the material properly. Candidates who cram at the last minute seldom recall with the level of detail required during the exam itself. The simple recall of facts may not help candidates when they are asked to relate parts of the Course or answer to a context.

Attempt every question in the first two sections and all the questions in the optional topic studied. A blank response can gain no marks!

Read the marking instructions and external assessment reports for previous years. These documents contain invaluable advice for candidates and centres on a range of questions.

Candidates should gain plenty of practice in exam technique throughout the year. It is vital that they also experience a practice assessment, or prelim, as close in structure to the real thing as possible. A well structured prelim, marked to the same standard as the SQA examination, will give important formative and summative feedback to candidates and centres alike. The paper should give the same time allocation per mark. It should also have the correct balance of core to option and knowledge and understanding to problem solving.

Candidates should be given this advice: if you are unsure of anything in the Course, ask your teacher/lecturer. They are the experts and will direct you to the best source for your answer.

Statistical information: update on Courses

Number of resulted entries in 2009	4305
Number of resulted entries in 2010	4356

Statistical information: performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark — 200				
A	17.1%	17.1%	743	132
B	24.4%	41.5%	1064	111
C	28.9%	70.4%	1258	91
D	10.1%	80.4%	439	81
No award	19.6%	100.0%	852	—

General commentary on grade boundaries

While SQA aims to set examinations and create marking instructions which will allow a competent candidate to score a minimum of 50% of the available marks (the notional C boundary) and a well prepared, very competent candidate to score at least 70% of the available marks (the notional A boundary), it is very challenging to get the standard on target every year, in every subject at every level.

Each year, therefore, SQA holds a grade boundary meeting for each subject at each level where it brings together all the information available (statistical and judgemental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Head of Service and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the management team at SQA.

The grade boundaries can be adjusted downwards if there is evidence that the exam is more challenging than usual, allowing the pass rate to be unaffected by this circumstance.

The grade boundaries can be adjusted upwards if there is evidence that the exam is less challenging than usual, allowing the pass rate to be unaffected by this circumstance.

Where standards are comparable to previous years, similar grade boundaries are maintained.

An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions, and the mix of questions are different. This is also the case for exams set in centres. If SQA has already altered a boundary in a particular year in say Higher Chemistry this does not mean that centres should necessarily alter boundaries in their prelim exam in Higher Chemistry. The two are not that closely related as they do not contain identical questions.

SQA's main aim is to be fair to candidates across all subjects and all levels and maintain comparable standards across the years, even as Arrangements evolve and change.