

Principal Assessor Report 2004

Assessment Panel:

Biology

Qualification area

**Subject(s) and Level(s)
Included in this report**

Biotechnology Higher

Statistical information: update

Number of entries in 2003	23
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Number of entries in 2004	35
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General comments re entry numbers

There is a small increase of 12 more candidates in 2004 than in 2003. Five centres in total presented in 2004 with 2 new centres from FE.

Statistical Information: Performance of candidates

Distribution of awards

Distribution of awards	%	Cum %	Number of candidates	Lowest mark
A	40.0	40.0	14	91
B	2.9	42.9	1	78
C	28.6	71.4	10	65
D	11.4	82.9	4	58
No award	17.1	100	6	0

Comments on any significant changes in percentages or distribution of awards

It is difficult to make meaningful comments with such a small sample number. However, there is a higher pass rate in 2004 and a lower number of no awards.

Grade boundaries for each subject area included in the report

Grade Boundaries	Lowest mark	Percentage of maximum marks
A	91	70
B	78	60
C	65	50
D	58	45
No award	0	0

General commentary on passmarks and grade boundaries

- While SQA aims to set examinations and create mark schemes which will allow a competent candidate to score a minimum 50% of the available marks (notional passmark) and a very well-prepared, very competent candidate to score at least 70%, it is almost impossible to get the standard absolutely on target every year, in every subject and level
- Each year we therefore hold a passmark meeting for each subject at each level where we bring together all the information available (statistical and judgmental). The Principal Assessor and SQA Qualifications

Manager meet with the relevant SQA Business Manager and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the senior management team at SQA

- We adjust the passmark downwards if there is evidence that we have set a slightly more demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- We adjust the passmark upwards if there is evidence that we have set a slightly less demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- Where the standard appears to be very similar to previous years, we maintain similar grade boundaries
- 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 are different. This is also the case for exams set in centres. And just because SQA has altered a boundary in a particular year in say Higher Chemistry 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
- Our main aim is to be fair to candidates across all subjects and all levels and maintain standards across the years, even as arrangements evolve and change.

Comments on grade boundaries for each subject area

The examination was judged to be of the same standard as previous years and so the grade boundaries are the same as in 2003.

Comments on candidate performance

General comments

The candidate group showed improved performance than in 2003 and were more like the 2002 population.

Areas of external assessment in which candidates performed well

In Section B the overall candidate response was strong in the following areas :

- *cell structure and function
- *DNA structure and profiling
- *immunity
- *fermenters
- *laboratory practice
- *enzyme immobilisation
- *graph drawing

In Section C the candidates answered the virus essay extremely well.

Areas of external assessment in which candidates had difficulty

In Section B there were several areas which posed difficulty for candidates:

- ◆ typical A type questions which involved predictions, explanations, giving reasons, comparing trends, describing relationships, calculations.
- ◆ Transformation experimental question
- ◆ Brewery bacteria key

Section C

These questions proved to be demanding with the exception of the viruses essay.

Essay 2B on laboratory investigations was poorly completed.

Recommendations

Feedback to centres

Centres should continue to refer to the updated Higher Biotechnology arrangements document (Fifth Edition – March 2004) for content coverage and clarification of depth of knowledge.

Centres should provide maximum opportunity to develop skills in problem solving areas which candidates have difficulty with as mentioned overleaf. Candidates should also be given as much practice as possible at extended response questions.