

**External examiners's report 2012**  
**Part C Mathematics, Mathematics & Philosophy**

Let me first address the stated guidelines:

(i) *whether the academic standards are appropriate*

Oxford is of course fortunate in being able to attract good students. The standard of the examination was high but appropriate.

(ii) *the extent to which the assessment processes are rigorous and fair*

The model answers supplied to me before the exam were, for the most part, impressive in detail and very helpful in assessing the nature of the exam papers. At the time of the final meeting, it was striking how much effort went into producing a fair outcome. This effort is needed mostly for two reasons: firstly, to arrive at a single overall result from marks spread over many different papers, and secondly, to arrange that this overall result fits the university's USM scheme.

With regard to the USM scheme, it is widely felt by mathematicians that schemes of this kind, with credit spread over a narrow range, are unnatural for the subject. Indeed I believe that some of the London colleges, in exams at this level, use a different mark (below 40%) at the bottom end in order to mitigate the effects on weaker students. However, presumably the USM scheme is part of a wider discussion and no doubt it is here to stay, so the above is just an observation.

More important for students at the lower end is to ensure that there is a minimum amount of accessible material in each paper. This is already a matter of current policy, which I hope will be continued despite, as I understand it, the entry threshold for Part C being more rigorous next year.

With regard to bringing together the marks from many papers, see below.

(iii) *the standards of performance in the programmes*

The cohort of students being examined is pre-selected and the performances were correspondingly high.

No difficulties arose with the joint Mathematics and Philosophy candidates because, rather gratifyingly, they all performed equally well in each discipline.

(iv) *comparability with other institutions*

There are few institutions with a fourth year of comparable size and standard - perhaps Warwick (Cambridge's fourth year serves a different purpose).

(v,vi) *issues and good practice*

A handful of candidates were mentioned for non-academic (e.g. medical) reasons: the examiners gave proper attention to these cases.

I am grateful for the hospitality and assistance provided by the University, in particular the guidance of the chairman David Stirzaker, the helpfulness of Helen Lowe and the legerdemain of Waldemar Schlackow.

I include below some points of fine detail.

It is evident that a lot of thought has gone into the process whereby marks from different papers are

aggregated. Moreover the process has been refined in the light of experience. A huge amount of information is made available at the final meeting in order to promote fairness.

Given the skill shown at making the computer sing, I wonder whether it is possible to add the following next time. Some of these points were, I think, discussed at the meeting.

- (a) The performances of students in Part C over the past 5 years is given, but the performance in Part B only for the previous year; 5 years' worth of Part B would be useful.
- (b) "Jack-knifing" has been dropped, for sound reasons. However, is it still possible to have data indicating the performance of the students in each paper relative to the same students' performances overall in Part C?
- (c) In the list of candidates ranked by overall mark it would be helpful to have the summary of marks per paper (especially near borderlines).
- (d) In the same final list, can the overall mark be displayed that the candidate had in the initial list?

My reason for suggesting (d) is that the examiners spend much time discussing each paper, and it would be good to see the effect on individuals of the decisions taken.

I did compare the initial and final lists for this year; typically candidates moved up or down by around five places, though only a handful crossed a borderline and all of these were candidates to whom special attention was given. Perhaps this indicates a robustness in the system.

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