

Chemistry Part II 2004

Chairman's Report

Part I

A. Statistics

(1) Numbers and percentages in each class

class	number				percentage (%)			
	2003/4	2002/03	2001/02	2000/01	2003/4	2002/03	2001/02	2000/01
I	53	56	65	57	37.0	34.1	38.5	34.1
II.I	72	82	76	78	50.3	50.0	45.0	46.7
II.II	16	19	24	25	11.2	11.6	14.2	15.0
III	1	7	3	6	0.7	4.3	1.8	3.6
Fail*	1	0	1	1	0.7	0	0.6	0.6
totals	143	164	169	167#				

* accordingly left off the list with the unclassified B.A. honours degree (earned previously).

a further candidate withdrew during that year.

(2) If vivas are used. Please include numerical detail of any vivas which were held, with an indication of the effect of any vivas on classes or results.

Every one of the 143 candidates was *viva*-ed on his/her thesis by the two examiners who had read and graded the thesis, except one who was excused on medical grounds. The viva mark awarded counted for 9.1 % of the total Part II mark (and therefore only 2.3 % of the final assessment). Ultimately, the *viva* mark had a significant impact in only a few cases where the candidate was at a class borderline.

(3) Marking of scripts. Please give details of scripts which are not double-marked.

Not applicable.

However, all the **theses** were double marked.

B. New examining methods and procedures

None.

C. Please list any changes in examining methods, procedures and conventions which the examiners would wish the faculty/department and the divisional board to consider.

None, except a proposal which will be put to CAC for changing the specifications for thesis binding which would be greatly to the convenience of the examiners and the Schools.

The traditional form of binding (boards and screws) is inconvenient in several ways (weight, stacking problems) and I wish to recommend that a limp binding be adopted in future.

D. Please describe how candidates are made aware of the examination conventions to be followed by the examiners (Please attach any relevant documentation to the report.)

See the *Instructions to Candidates*, which was circulated electronically on 5-04-04, and *Examination Conventions in Chemistry*, which was published on the Departmental website, after approval by CAC and EPSC, on 2-04-04.

Candidates appeared to be aware of what was expected of them as regards the production of theses, though a few transgressed the guidelines slightly. Nobody was penalised.

Part II

A. General comments on the examination

- (a) The quality of the candidates appeared comparable with recent years, and their distribution among the four classes was accordingly in line with recent trends.
- (b) No fundamental changes in procedure are envisaged.
- (c) 143 candidates entered the examination, a very low figure in comparison with recent years, and 142 were classified; 148 got honours in Part I 2003. The corresponding matriculation and prelims success figures for the cohort were 175 and 159, a wastage of 33 (18.8%) between the start and end of the course.
- (d) Particular care was taken to allow for any disadvantages arising from the move into the new laboratory (the CRL) in early 2004.
- (e) Two candidates overlooked the requirement to make a statement about plagiarism: they were reminded, and made the omission good.
- (f) In two cases a change of Supervisor during the Part II year was not adequately formalised. Although not the concern of the Examiners, the change of responsibility for safety needs to be on the formal record.

B. Equal opportunities issues and breakdown of the results by gender

- (1) *The outcome analysed in gender terms*

The class allocations by sex are detailed in the table below.

Class	Women	Men
I	16 (11.19%)	37 (25.87%)
II-1	27 (18.88%)	45 (31.47%)
II-2	7 (4.9%)	9 (6.29%)
III	0	1 (0.7%)
Fail	1 (0.7%)	0
totals	51 (35.66%)	92 (64.34%)

The average final marks were women 614.32, men 642.63, overall 632.54, corresponding to a gender deficit of 4.48% (cf. 7.76% at Part I 2003).

(2) *The outcome by school background*

Considering the home-students alone, the average final marks for candidates from the state (S) and independent (I) schools or colleges were respectively 653.88 [51 candidates] and 623.88 [86 candidates], while the overall mean was 634.85 [137 candidates]. This corresponds to a school deficit of 4.64% (cf. 5.66% at Part I 2003).

I am indebted to Mr. A.F. Orchard for these analyses.

C. Detailed numbers on candidates' performance in each part of the examination

Not applicable.

D. Comments on papers and individual questions

Not applicable.

However, it may be of interest to note the distribution of Part II candidates among sub-departments or subjects. The main laboratories accommodated all but 8 of the 143 candidates with the following distribution:

Inorganic Chemistry 46

Physical & Theoretical Chemistry 44

Organic Chemistry 45

The average grades achieved by candidates in these three sub-divisions were essentially the same.

The 8 other candidates, working outside the chemical laboratories, were engaged in research in Biochemistry (1), Pharmacology (1), Materials Science (1) and the History of Science (5).

E. Comments on the performance of identifiable individuals and other material which would usually be treated as reserved business

See the Appendix.

F. Names of members of the board of examiners

Dr R.M. Adlington

Professor Sir Jack Baldwin, FRS

Professor M.S. Child, FRS

Dr S.J. Clarke

Professor R.G. Egdell

Professor D. O'Hare

Dr J.M. Peach

Dr R.K. Thomas, FRS

Dr D.E. Manolopoulos

Professor I.W.M. Smith, FRS (Birmingham)

Professor W.P. Griffith (Imperial)

Professor L.M. Harwood (Reading)

Appendix

E. Comments on the performance of identifiable individuals and other material which would usually be treated as reserved business

(1) Response to certificates received concerning personal difficulties encountered by certain candidates.

As is our usual practice, all the certificates received during both Part I and Part II were considered together by the full board of Examiners in the final assessment of candidates, and appropriate allowances were made. In two cases candidates were promoted to Ili from Iii.

(2) Proctor's fine

One candidate, for reasons acceptable to the Board, submitted her thesis 2 hrs 4 mins late, which gave her no advantage, and caused the Board no inconvenience whatsoever. The Proctors fined her £50 without consulting the Examiners, who were unanimous in their disapproval of this action.

John Jones
Chairman
21 August 2004

**Honour School of Natural Science:
Chemistry Part II, 2004
Information for Candidates**

1. Deadline for submission of theses

Two copies of your thesis must be handed in at the Examination Schools by 12 noon on Friday 11th June 2004 (7th Week of Trinity Term). You should address the envelope to The Clerk of the Schools, Oxford, for the Chairman of the Examiners in the Final Honour School of Natural Science (Chemistry Part II). This is a serious deadline, and you should schedule the preparation of your thesis to meet it: be aware that the final production of a thesis may take longer than you anticipate. If you are prevented by illness from completing your thesis in time you should apply, with an accompanying medical certificate, through the Senior Tutor of your College to the Vice-Chancellor and Proctors for permission to submit late.

2. The content, form and style of theses

(a) The thesis should be a clear, concise account of your work. It should start with a title page followed by a short summary, a list of contents, acknowledgements, and (if appropriate) a glossary of abbreviations, acronyms, and any special terms used. The summary (not more than 2 pages) must be independent of the main text. The thesis should end with a brief (e.g. half-page) formal conclusion on the results.

The attention of candidates is drawn to the University policy on plagiarism, which is summarised in the Undergraduate Course Handbook 2003 - 04, p32. Note especially regulation 4: "No candidate shall present for an examination as his or her own work any part or the substance of any part of another person's work."

The acknowledgements page of the thesis must include a signed statement in the following form:

The work described in this thesis is entirely my own, except where I have either acknowledged help from a named person or given a reference to a published source or a thesis. Text taken from another source will be enclosed in quotation marks and a reference given.

Signature:

Date:

(b) Each page of the thesis should be of A4 size with a text area of ca. 15 by 24 cm, double-spaced 12 point type being used for normal text. A thesis based on experimental work should not normally exceed 60 sides (including figures, references, etc.); excessive length may detract from the value of the thesis and may be penalised by the examiners. Do not try to 'squeeze in' more writing by using, e.g. smaller type, a larger typing area, or

narrower line spacing. You are encouraged to use both sides of a page to produce a slimmer thesis. However, if you do so, it is essential to set margins to ensure that the verso page is fully and easily legible.

A thesis that is not based on experimental work may need to be longer than 60 pages; but candidates are still strongly advised to be as concise as possible. You may put detailed tables, computer program listings, or similar material, into one or more appendices at the end of the thesis. Appendices will not count towards the length of the thesis and will not be evaluated by the examiners. The pages of the thesis should be numbered sequentially, including those containing only figures or diagrams.

(c) The thesis should be typed or word-processed, and the pages secured either in a hard backed folder with screw fittings (these require ca. 4.5 cm inner margin) or by stapling along the inside (left) edge and sealed to the spine of a flexible cover containing thermoplastic glue (your sub-department will have further information).

N.B. Spring-back folders or ring binders are not acceptable.

(d) The front cover of the thesis must be clearly labelled with the title of the examination (as given at the top of this notice), the title of the thesis, and your name and college. Your name, the title of the thesis (abbreviated if necessary), and college should also appear on the spine.

(e) CD Appendices

(i) Detailed information that is an important part of the research record, but which the examiners may not need to scrutinise, should be included as a CD, this being securely housed in a pocket on the inside of the back cover. In mind here are data such as those pertaining to crystal structure determination, the listing of code for a long computer programme, etc.

(ii) For any IT theses where the bulk of the work is only assessable in electronic form, this should be supplied on a stand-alone disc.

(iii) Any CD accompanying a thesis, for whatever reason, should be carefully checked for proper functionality and a copy deposited with the supervisor (who should sequester it). The CD should be labelled unambiguously. The supervisor, or a delegated associate, should be asked by the candidate to check that the CD loads correctly on a standard PC platform before it is submitted with the thesis.

(f) Two copies of the thesis should be submitted; one will be returned to you at the end of your viva, and the other will be retained in the Examination Schools for one year and then returned to your department or supervisor. You are strongly advised to bring a further copy of the thesis to the viva.

3. Viva voce examinations

These will be held in the Examination Schools from Monday 28 June to Tuesday, 6 July, inclusive. The main purpose of the viva is to assure the Examiners that you have carried out and understood the work described in the thesis, but you may be asked more general questions relating to your project. The viva may also provide an opportunity for you to clarify points in your thesis that were unclear to the Examiners. Lists of candidates with

times and dates of vivas will be posted in the Examination Schools and in the three main Chemistry Laboratories shortly after the Easter break. Except in cases of real emergency, the timetable cannot be altered once it has been published.

4. Communication with the Examiners

Direct communication between Candidates and Examiners before or after the viva is strictly forbidden except with me for matters relating to the viva timetable. All communications on other matters must be conducted through your College and the Proctors.

John Jones
Chairman of Examiners, Chemistry Part II 2004
March 2004

EXAMINATION CONVENTIONS IN CHEMISTRY

Introduction

This is the first attempt at a consolidated statement of examination conventions in Chemistry. It is based on scattered information in the reports on examinations 2000-2003 inclusive and the collective memory of recent Chairmen, and has been approved by the Chemistry Academic Committee (CAC and EPSC). It should be read together with *Examination Regulations 2003* (which are however under revision for 2004) and the *Department of Chemistry Course Handbook, Academic year 2003-2004*. CAC will review the conventions, regulations and handbook annually hereafter. The Examiners are left with discretion however, subject to the guidance of the Junior Proctor where appropriate, to deviate slightly from what is laid down, according to circumstances. The Oxford course structure and examining system in Chemistry have evolved over a long period, and there are a number of unique well tried features which make for complicated regulations and conventions.

If any student or academic staff member finds any part of the regulations, conventions or handbook obscure, enquiries should be addressed to the Chairman of CAC, through the Sub-Faculty office in the first instance. Such enquiries are welcome as clarification helps everybody. It is not appropriate to address the Chairmen of Examiners on such matters.

Prelims

See especially *Examination Regulations 2003* p62, but general regulations found elsewhere also apply.

Each paper will be marked out of 100, according to the outline marking scheme printed on the question paper. Marks will be rescaled if necessary to eliminate imbalance between papers.

The pass mark on each paper will be 40; no compensation will be allowed on any of the three Chemistry papers, but a fail mark in Mathematics of up to 2 will be allowed as a pass, provided the candidate passes all three Chemistry papers and has an aggregate mark on all four papers of 180 or more.

Distinctions are awarded to approximately the top 30% of candidates.

A shortfall in practical work satisfactorily completed will be penalised pro rata @ 20 marks per branch of Chemistry. For this purpose the required IT work will be regarded as part of the ICL stint as it takes place in ICL-allocated laboratory time. Any penalties exacted will also be imposed on the September resit if a candidate has to take that examination.

It should be noted that nobody may enter for Part IA unless they have already passed all parts of Prelims. Under the regulations now being phased out, it was possible for a student to embark on the second year of the course without having completely satisfied the Prelims examiners, intending to make good the deficiency in the examination of the following summer. This is no longer possible.

Part I

Part I is being phased out. See especially *Examination Regulations 2003*, p378, but general regulations found elsewhere also apply.

Part I has never been a stand-alone examination for the vast majority of candidates; its primary purpose is to identify those who are worthy of Honours, for whom classification depends on performance in Parts I and II together, weighted 75:25 respectively.

Each Part I paper will be marked out of 100, according to the outline marking scheme on the question paper. It will be the aim of the examiners to set papers such that an average mark of 65 is attained. But at this stage marks will not be rescaled, nor will medical and other certificates received through the proper channels be taken into account, except for candidates in the Pass/Fail or Pass/Honours borderline or those who are candidates for Prizes.

In recent years the number of outright failures has been 0 or 1 and the number of Pass Degrees awarded has been 0-2 (total candidate numbers were of the order 150-170).

The views of the external examiners are considered carefully before any candidate is denied Honours. In recent years the Honours threshold has been about 280 out of 800 in Part I, on papers where the mean marks were $\ll 65$.

Distinctions in Supplementary Subjects will be recognised by a marks bonus after Part II of 10, but will be taken into account for borderline candidates in Part I or Part IB. Of those who do Supplementary Subjects, the vast majority do only one, but there is no limit on the number. Distinctions will be credited @10 each but only one Supplementary Subject will be accepted as an alternative to a year's practical work in one of the laboratories.

No candidate may sit Part I without having completed 1.5 year's worth of the practical stint in each of the three laboratories, and also the whole IT requirement.

Candidates will be penalised for any shortfall in the required practical work, to the extent of 25 marks per year of uncompleted work in any laboratory, or the *pro rata* equivalent.

Parts IA and IB

See *Examination Regulations 2003*, p379, but general regulations found elsewhere also apply.

Parts IA and IB replace Part I, and are like Part I conceived as parts of one examining process together with Part II. The primary purpose of Parts IA and IB is to identify those who are worthy of Honours, for whom classification depends on performance in Parts IA, IB and II together, weighted 25:50:25 respectively.

Each General Paper will be marked out of 100, according to the outline marking scheme shown on the question paper. Each Option Paper will be marked out of 67 (so that the three Option Papers of 2 hours each equate to two 3 hour General Papers). It will be the aim of the examiners to mark such that an average grade of 65% is attained on all papers. There will be no pass/fail mark in Part IA; all candidates who complete it will have their marks carried forward to Part IB, and candidates will not be permitted to take it again. Marks will not be rescaled, nor will medical and other certificates received through the proper channels be taken into account in Parts IA or IB, except for candidates in the Pass/Fail or Pass/Honours borderline after Part IB, or those who are candidates for Prizes. Marks in Parts IA and IB will be weighted 25:50 in the aggregated mark and, with appropriate relative scaling, expressed out of 750.

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The views of the external examiners are considered carefully before any candidate is denied Honours. In recent years the Honours threshold in Part I has been about 280 out of 800, on papers where the mean marks were $\ll 65\%$.

Distinctions in Supplementary Subjects will be recognised by a marks bonus after Part II of 10. Of those who do a Supplementary Subject, the vast majority will no doubt do only one, but there is no limit on the number which may be taken. Distinctions will be credited

@10 marks each, but only one Supplementary Subject may be offered as an alternative to a year's practical work in one laboratory.

Practical work will not be taken into account in Part IA. A shortfall in practical work satisfactorily completed will be penalised pro rata @ 25 marks per year's work in any branch of Chemistry; a shortfall in IT work will be penalised pro rata @ 5 marks. These penalties will be imposed on the raw aggregate marks for Parts IA and IB.

No candidate may sit Part IB without having completed 1.5 year's worth of the practical stint in each of the three laboratories.

Part II

See *Examination Regulations 2003*, p 380

Additional Supplementary Subjects may be taken during the Part II year, and any Distinctions gained will be credited @ 10marks but no retrospective compensation for shortfalls in practical work or IT reported to the Part I or Part IB examiners will be allowed.

The Chairman of the Part II examiners will circulate instructions on the preparation of theses and information about other pertinent matters in Hilary Term. Candidates may be penalised for failure to conform.

Theses will be read by two examiners each of whom will mark out of 100; if there is major disagreement a third examiner will assess the thesis.

At the viva the two principal readers of the thesis will lead; the viva will be marked out of 20. Other than in exceptional circumstances, the viva cannot result in a decrease in the thesis marks.

The two thesis marks and the viva mark will be added to give the Part II mark, which will be aggregated with the Part I or aggregate Part IA, IB marks (rescaled as necessary) weighted 25:75, and expressed as marks out of 1000. Bonuses for Distinctions in Supplementary Subjects will be added after aggregation.

Supervisors will be asked to report on the work of all candidates and on any special difficulties or advantages the candidates may have had.

In deciding final classifications, account will be taken of (a) any medical or other proper certificates received in Part I or Part IA, IB or Part II; and (b) Supervisors' reports, but they will not be evaluated numerically.

It is expected that the percentages of the classes awarded will be in the ranges of recent years, i.e. I, 33-38%; Ii, 45-50 %; Iii, 10-15%; III, 0-5%. These percentages are not mandatory however, and occasionally a candidate's thesis and viva are deemed inadequate for any class of MChem degree: such candidates are not included in the Part II list, but the entitlement to an unclassified BA Honours degree which they had after Part I stands.

John Jones
Chairman, CAC
31 March 2004