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FROM THE EXAMINATIONS DEPARTMENT

Final Report January 2009 Part 1 FRCOphth Examination

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The eighth Part 1 FRCOphth examination took place on Monday 19 January 2009. Ninety candidates registered but only 79 sat the examination, of whom 37 (47%) passed both the MCQ and CRQ papers, and hence the examination overall.

MCQ examination

Content

Topic	Oct 2008	Jan 2009	%
Anatomy/embryology	18	16	13
Genetics	9	9	8
Immunology	8	6	5
Biochemistry/Cell biology	9	11	9
Optics	16	15	13
Pathology/microbiology	22	22	18
Pharmacology	17	14	12
Physiology	11	17	14
Statistics & epidemiology	6	4	3
Investigations	4	6	5
	120	120	100

MCQ paper statistics

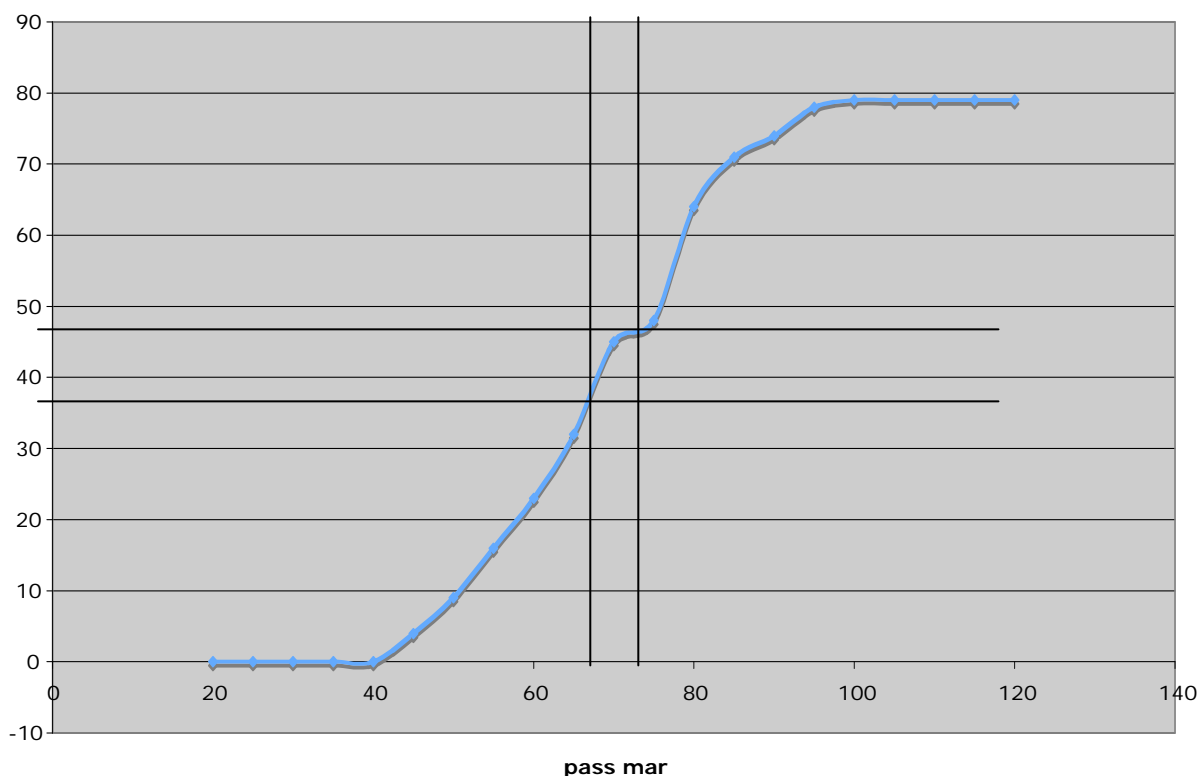
Mean score: 67 (56%)
 Median score: 67 (56%)
 Standard deviation: 13.7 (11.3%)
 Candidates: 79
 KR20: (measurement of reliability) 0.871
 Standard error of measurement (SEM): 4.91
 Range of marks: 41-95 (34-79%)
 Pass mark: 73/120 (61%)
 Pass rate: 34(43%) candidates passed at this cut-off

Distribution of results

Range of scores	Distribution curve	Number
1-30		0
31-40		0
41-50	11111 11111	10
51-60	11111 11111 11111 11	17
61-70	11111 11111 11111 111	18
71-80	11111 11111 11111 11111 1	21
81-90	11111 11111	10
91-100	111	3
101-120		0
Total		79

Cumulative raw scores (with pass mark -1 SEM)

proportion failing as pass mark



Standard setting

The pass mark for the paper was agreed using the Ebel method.

The examiners agreed the distribution of the questions in each category:

	Difficult	Moderate	Easy	Total
Essential	0	10	34	44
Important	1	39	10	50
Supplementary	10	11	5	26
Questionable	0	0	0	0
total	11	60	49	120

Results from the examination show the following distribution of questions.

	Difficult	Moderate	Easy	Total
Total	6	90	24	120

The Examination Committee considered the success of a minimally competent candidate in each category as below:

	Difficult	Moderate	Easy
Essential	55% of 0	62% of 10	75% of 34
Important	50% of 1	55% of 39	70% of 10
Supplementary	30% of 10	50% of 11	70% of 5

Weighted marks

	Difficult	Moderate	Easy	Total
Essential	0	6.2	25.5	31.7
Important	0.5	21.45	7	29.0
Supplementary	3	5.5	3.5	60.7
Total	3.5	33.2	36.0	72.7

The final pass mark = 73/120 (61%)

The pass mark was only slightly lower than the last sitting of the examination.

Comparison of pass marks and pass rates for last 5 MCQ papers

	Oct 2007	Jan 2008	May 2008	Oct 2008	Jan 09
Candidates	56	73	66	88	79
Mean score	55.5 (46%)	62.8 (52.3%)	64.9 (54%)	69 (58%)	67 (56%)
Reliability (KR 20)	0.82	0.833	0.747	0.881	0.871
SEM	4.92	4.82	4.9	4.82	4.91
Standard setting	Angoff	Ebel	Ebel	Ebel	Ebel
Pass mark	66 (55%)	72 (60%)	77 (64%)	74 (62%)	73 (61%)
Modified pass mark	N/A	67 (55.8%)	68 (56.7%)	70 (58%)	68 (57%)
33% discrimination					
Negative	15	9	16	11	12
Poor	53	47	64	45	38
Good	31	35	28	28	41
Excellent	21	29	12	35	29
Facility					
Difficult (<25%)	29	12	13	8	6
Moderate	80	87	84	88	90
Easy (>75%)	11	21	23	23	24
Pass rate	13 (23%)	27 (37%)	16 (24%)	45 (51%)	34 (43%)

The CRQ paper

The examination in January 2009 covered the following areas:

question	Subject	Topic	Sub-sections	Data provided
1	Anatomy	Cavernous sinus	10	Sketch to label
2	Clinical microbiology	Keratitis	4	Clinical photograph
3	Pathology	Temporal artery biopsy	3	Photomicrograph
4	Anatomy	Extraocular muscles	2	Anatomical drawing
5	Anatomy	Anterior chamber angle	3	Anatomical drawing
6	Optics	Galilean telescope	4	None
7	Optics	Reduced eye	3	None
8	Investigations	OCT	5	Colour picture and OCT
9	Investigations	Neuroimaging	5	MRI
10	Investigations	Angiography	7	Colour picture and angiograms
11	Investigations	Hess chart	4	Hess chart
12	Investigations	Data interpretation	5	Scenario and blood results

Statistics

Mean score: 71/120 (59%)

Median score: 74/120 (62%)

Standard deviation: 13.8 (11.5%)

Range of scores: 39-95 (33 – 79%)

Reliability: Cronbach alpha 0.780

Standard error of measurement: 6

Pass mark: 68/120 (56%)

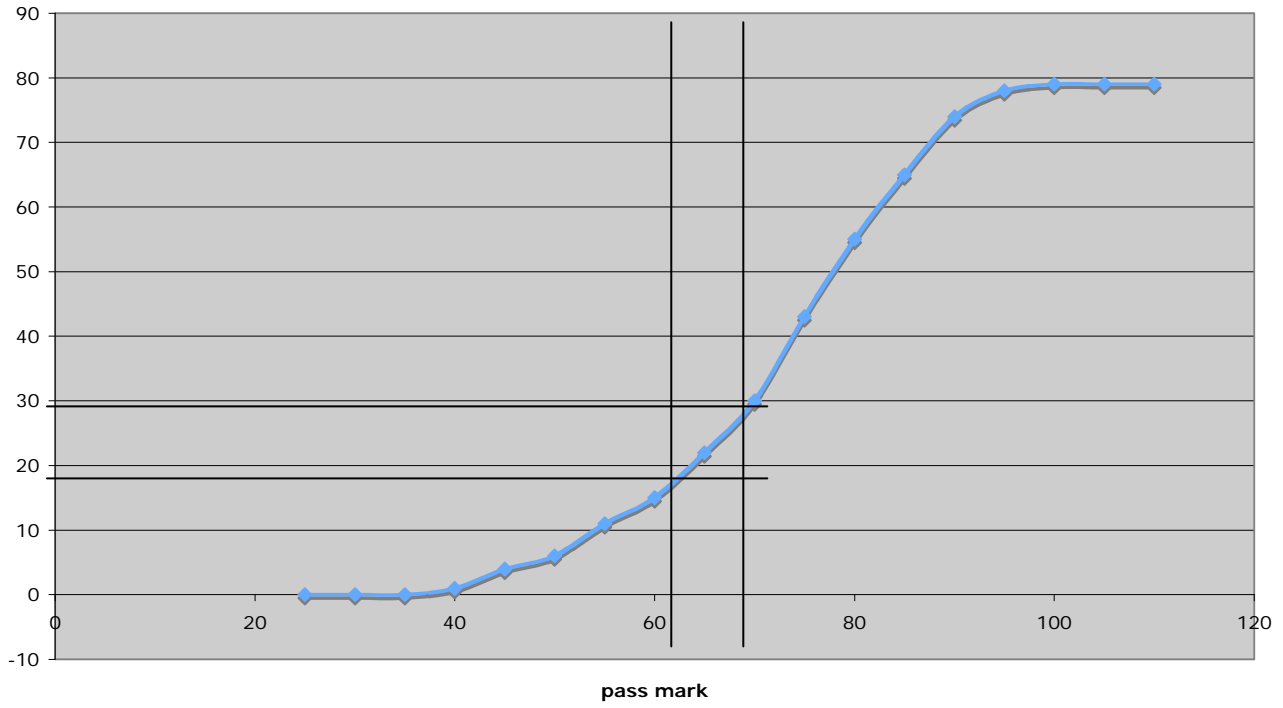
67 candidates passed at this cut off

Distribution of scores

Range of marks	Distribution curve	Number
< 20		0
21-30		0
31-40	111	3
41-50	1111	4
51-60	11111 11111 1	11
61-70	11111 11111 1111	14
71-80	11111 11111 11111 11111 11111	25
81-90	11111 11111 11111 111	18
91-100	1111	4
101-110		0
Total		79

Cumulative scores (with pass mark – 1 SEM)

cummulative failure rate



Standard setting

The borderline candidate method was used to identify the pass mark for the CRQ. The examiner who marked the CRQ paper were asked to allocate a mark according to the marking scheme provided and additional class the candidates performance as either a pass, fail or borderline. The sum of each median borderline mark was used to produce the pass mark:

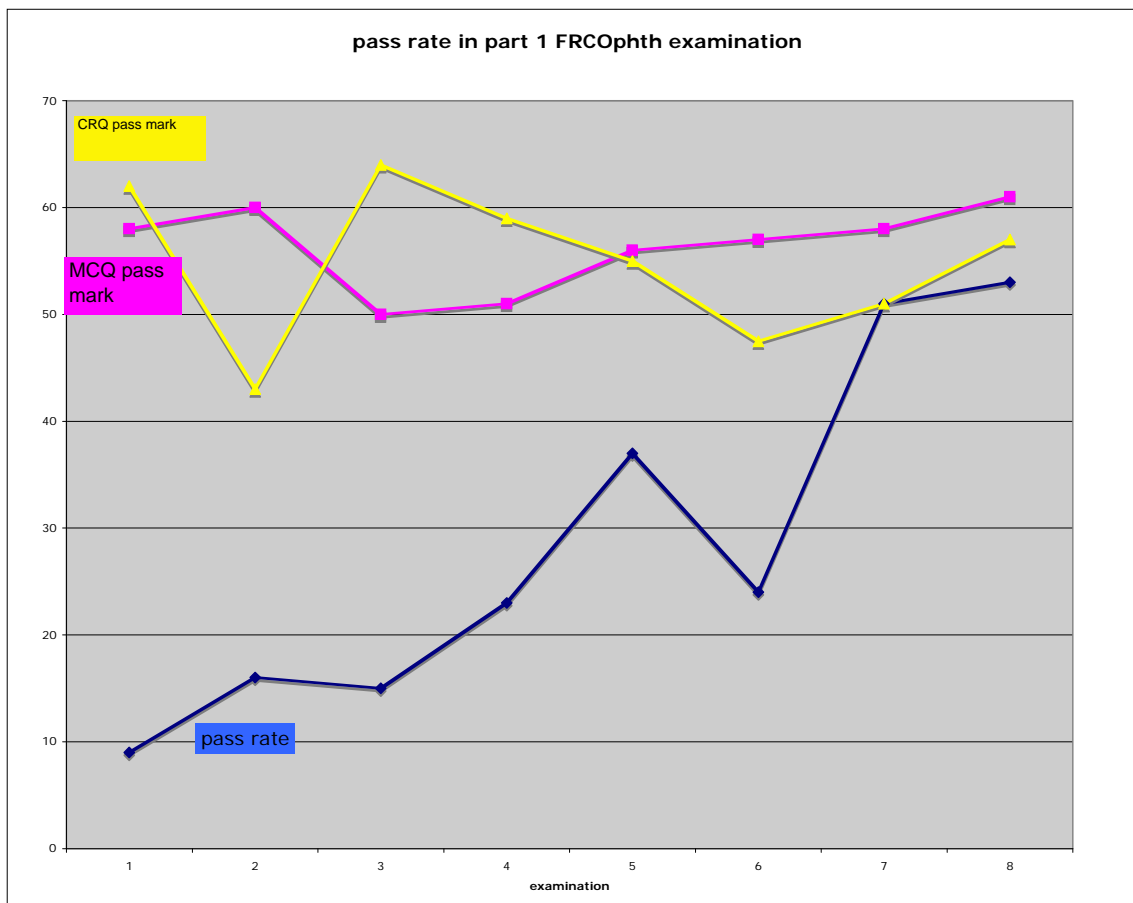
	Topic	No. Pass	No. Fail	No. Borderline	Median Borderline mark
1	Anatomy	13	63	3	4
2	Clinical	59	11	9	6
3	Pathology	51	6	22	6
4	Anatomy	28	13	38	5
5	Anatomy	55	11	13	6
6	Optics	34	35	10	6
7	Optics	53	22	4	6
8	Investigations	37	16	26	6
9	Investigations	55	16	8	5.5
10	Investigations	40	21	18	6
11	Investigations	49	13	17	6
12	Investigations	3	61	15	5
					67.5

Pass mark = 68/120 (57%)

Overall performance on the papers

Comparison to previous years:

Examination	Candidates	Passed examination	% passed	MCQ pass mark %	CRQ pass mark %
Oct 2006	33	3	9	58	62
Jan 2007	24	4	16	60	43
May 2007	32	5	15	50	64
Oct 2007	56	13	23	51	59
Jan 2008	73	27	37	56	55
May 2008	66	16	24	57	47.5
Oct 2008	88	45	51	58	51
Jan 2009	79	35 (42)	44 (53)	61	57



Summary

This sitting of the Part 1 FRCOphth examination confirms the improving trend towards a very reliable assessment of basic sciences for trainee ophthalmologists. The examination syllabus is clearly driving learning as the pass rate has improved from the first sitting in 2006 to around 50%. The MCQ paper has a reliability close to 0.9 and with continuing refinement of the few poor questions that remain in the bank, this part of the examination is an excellent assessment of knowledge.

The best use of the CRQ paper still requires some attention and the quality of the questions was a little weaker than previous sittings. This is reflected in the poor performance of candidates in at least one question.

Overall the Part 1 FRCOphth examiners have produced a high quality paper and the College can have confidence in the results and the standard of the candidates who passed the paper.

Mr Michael Nelson BSc FRCOphth MEd
Education Advisor

2 February 2009