

Examination Report

September 2014 Part 2 FRCOphth Written Examination



Summary	Page 2
MCQ paper	
Content (Blueprint)	Page 3
Statistics	Page 3
Distribution of scores	Page 4
Standard setting	Page 5
Breakdown of results	Page 5
Comparison to previous Part 2 written examinations	Page 7
Appendix 1	
Hofstee pass mark	Page 8

Michael Nelson BSc (Hons) FRCOphth MAEd
Education Advisor

October 2014

Public report on the Part 2 FRCOphth Written Examination

The written paper of the thirteenth sitting of the Part 2 FRCOphth examination was held on Monday 1 September 2014.

Summary

Since the change of the format of the written examination to a single 180 question multiple-choice paper, the reliability has maintained an acceptable standard (KR 0.8). The quality of the questions is similar to the previous 3 MCQ papers. One question was removed from this paper, which was therefore marked out of 179.

The pass mark for the written examination is now raised by 1 SEM above the mark identified by the standard set by the Ebel method. Unsurprisingly the pass rate for the examination has fallen (95/136 70%) with a pass mark of 63%. 17 candidates obtained the Ebel mark but fell below the pass mark of Ebel + 1 SEM. Seven of these candidates had failed the examination at a previous sitting (one candidate has attempted examination 7 times). Eleven were in training posts (4 in ST5, 4 in ST6, 1 in ST7 and 2 LATs).

The written component of the Part 2 examination is now de-coupled from the oral part and candidates are no longer obliged to sit the next oral examination. Of the 95 successful candidates, 80 indicated that they would attend the oral in November 2014. Of the 15 who indicated that they would defer, 12 were not in OST (80%), whereas 25 (31%) of those who plan to proceed are not in training.

There was no difference in the performance of candidates based upon an analysis of gender, training, ethnicity, country of qualification or first language.

The candidates

136 candidates presented themselves for the examination. 82 (60%) were in OST, with the majority (45%) in ST6.

The written paper

The written component of the Part 2 FRCOphth examination consists of a one multiple choice question paper, which is administered in two parts as two, 2-hour, 90-question single best answer from 4 MCQ papers. Candidates are required to pass the written paper before they are eligible to sit the oral component of the examination.

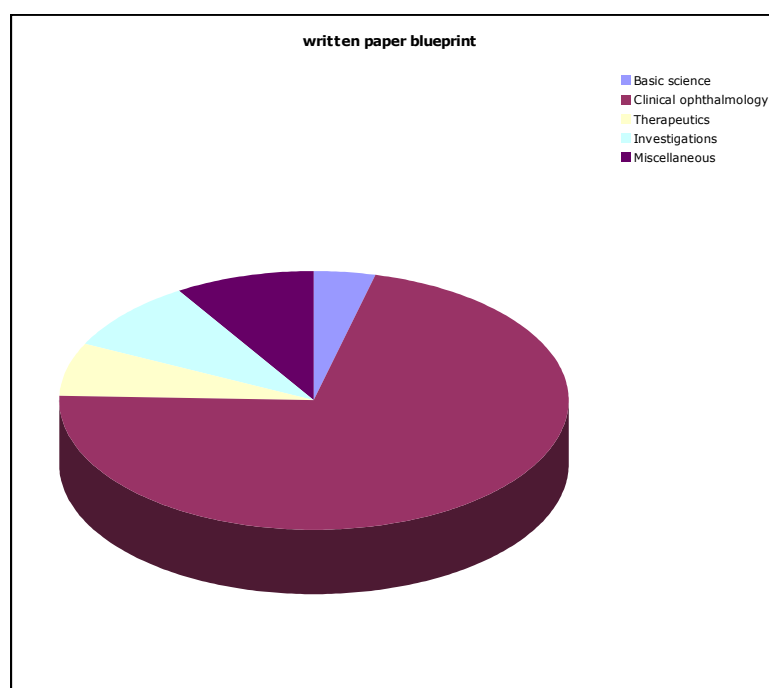
As part of the quality management of the College's assessment process, the written papers are reviewed by the Senior Examiner after marking, but before the results are known. One question was removed from the examination papers as a result of this review.

The Part 2 FRCOphth Sub-Committee reviews all of the questions with negative 33% item discrimination and low facility.

The MCQ paper blueprint

Table 1

		Paper 1	Paper 2	Total
Basic science		3	4	7
Clinical ophthalmology		64	64	128
	Cataract	5	5	10
	Neurology & pupils	8	8	16
	Glaucoma	5	5	10
	Strabismus & Paediatrics	8	8	16
	Retina	10	10	20
	Uveitis & oncology	6	6	12
	Trauma, oculoplastics and orbit	7	7	14
	Cornea & external eye	10	10	20
	Medicine	5	5	10
Management & therapeutics	Pharmacology & therapeutics	6	6	12
Investigations		8	8	16
Miscellaneous		8	8	16
Total		89	90	179



MCQ paper statistics:

Mean score:	117/179 (65%)
Median score:	117/179 (65%)
Standard deviation:	13.2 (7%)
Candidates:	136
KR20: (measurement of reliability)	0.82
Standard error of measurement (SEM):	5.68
Range of marks:	84-147
Pass mark derived from Standard Setting:	106/179 (59%)
Pass mark + 1 SEM	112/179 (63%)

Pass rate: 95/136 (70%)

Table 2 Distribution of marks:

Score	Distribution	Total
86-90	////	4
91-95	////	4
96-100	///// ////	9
101-105	///// //	7
106-110	///// ///// ////	15
111-115	///// ///// ///// ////	21
116-120	///// ///// ///// ////	21
121-125	///// ///// ////	15
126-130	///// ///// ///// //	17
131-135	///// ///// ////	15
136-140	////	5
141-145	//	2
146-150	/	1
151-155		0
Total		

Analysis of questions

The Speedwell data provides analysis and identification of easy, moderate and difficult questions, and those, which are good, poor or perverse (negative) discriminators. Ideally all questions should be moderate and good.

Table 3

	Difficult (<25 correct)	Moderate (25-74 Correct)	Easy (>75 correct)	Total
Negative discrimination	2	4	4	10
Poor discrimination (0-0.19)	3	54	50	107
Good discrimination (0.2-0.6)	0	49	13	62
Total	5	107	67	179

Standard setting for MCQ paper (Ebel method)

Table 4: Classification of the questions:

	Difficult	Moderate	Easy	
Essential	3	21	40	64
Important	6	21	55	82
Supplementary	2	14	17	33
Total	11	56	112	179

Table 5: Percentage correct by borderline candidates

	Difficult	Moderate	Easy
Essential	0.6	0.7	0.8
Important	0.5	0.55	0.6
Supplementary	0.25	0.3	0.3

Table 6: Weighted score

	Difficult	Moderate	Easy	
Essential	1.8	14.7	32	48.5
Important	3	11.55	33	47.55
Supplementary	0.5	4.2	5.1	9.8
Total	5.3	30.45	70.1	105.85

MCQ pass mark (Ebel + 1 SEM): 112/179 (63%)

Breakdown of Written Results

Table 7 Breakdown of written results by training

	Failed	Passed	Total
In OST	24	58	82
Not in OST	17	37	54
Total	41	95	136

These differences are not statistically significant ($p = 0.85$ Fisher exact probability test)

Table 8 Breakdown of written results by stage of training

	Failed	Passed	Total
ST3	0	0	0
ST4	0	0	0
ST5	7	11	18
ST6	8	29	37
ST7	6	12	18
	21	52	73

* Stage of training unknown for 9 candidates

Table 9 Breakdown of results by deanery

	Failed	Passed	Total
East Midlands	1	4	5
East of England	2	6	8
East of Scotland	0	2	2
KSS	0	0	0
London	9	16	25
Mersey	0	1	1
North of Scotland	1	2	3
North Western	0	4	4
Northern	0	3	3
N Ireland	0	0	0
Oxford	1	2	3
Peninsula	1	1	2
Severn	0	2	2
South of Scotland	0	2	2
Wales	2	0	2
Wessex	1	1	2
West Midlands	2	4	6
West of Scotland	1	1	2
Yorkshire	3	7	10
TOTAL	24	58	82

Table 10 Breakdown of written results by gender

	Failed	Passed	Total
Female	13	36	49
Male	28	59	87
Total	41	95	136

These differences are not statistically significant ($p = 0.56$ Fisher exact probability test)

Table 11 Breakdown of written results by country of qualification

	Failed	Passed	Total
UK	18	40	58
Outside UK (Inc Republic of Ireland)	23	55	78
Total	41	95	136

These differences are not statistically significant ($p = 0.85$ Fisher exact probability test)

Table 12 Breakdown of written results by stated ethnicity

	Failed	Passed	Total
Non-white	30 (12)	65 (24)	95 (36)
White	7 (3)	24 (15)	31 (18)
Total	37 (15)	89 (39)	126 (54)

Ethnicity not stated by 10 candidates (UK graduates)

These differences are not statistically significant for white/non-white ($p = 0.37$ (0.33) Fisher exact probability test)

Table 13 Breakdown of written results by first language

	Failed	Passed	Total
English	23	51	74
Other	14	37	51
Total	37	88	125

*First language unknown for 11 candidates

These differences are not statistically significant
(p= 0.69 Fisher exact probability test)

Table 14 Breakdown of results by number of attempts

Attempt	Failed	Passed	Total
1 (first)	26	56	82
2	7	21	28
3	6	10	16
4	1	3	4
5	0	0	0
6	0	1	1
7	1	3	4
8	0	0	0
9	0	1	1
Any re-attempt	15	39	54

Table 15 Comparison with the written papers from previous examinations

Examination	Candidates	Pass mark	Pass rate
September 2008	7	63%	86%
February 2009	15	59%	53%
September 2009	16	61%	38%
February 2010	21	65%	48%
September 2010	26	65%	58%
February 2011	46	65%	46%
September 2011	77	59%	68%
February 2012	104	58%	65%
September 2012	95	57%	81%
February 2013*	109	61%	85%
September 2013	103	59%	93%
February 2014	117	58%	90%
September 2014**	136	63%	70%

*The written papers changed from MCQ and EMQ papers (90 questions on each) to a 180-question MCQ paper at this sitting

** The pass mark is now set at Ebel + 1 SEM

Appendix 1 Hofstee pass mark

As a comparison to the pass mark identified using the Ebel method, the pass mark identified using the Hofstee method illustrated below:

Maximum fail rate	50%
(Minimum pass rate	(50%)
Minimum fail rate	20%
(Maximum pass rate	(80%)

Maximum pass mark	65%
Minimum pass mark	50%

(These values have been identified by the author and do not necessarily represent the views of the Part 2 sub-committee)

Hofstee pass mark	110/179 (61.5%)
Pass rate with Hofstee pass mark	100/136 (74%)

This pass mark is slightly lower than the pass mark identified using the Ebel method + 1 SEM (63%).

