

Examination Report

November Part 2 FRCOphth Written Examination



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Rehna Khan FRCOphth
Education Advisor

Summary

The written paper of the 16th sitting of the part 2 FRCOphth examination was held on 20 June 2016.

This is the fifth of the de-coupled part 2 written papers where the pass mark is elevated by +1 SEM.

The reliability of the examination remains high (KR 0.8), and meets GMC expectations. The proportion of questions with a good item discrimination has improved slightly from November 2015 and is 37% (with a 33% discrimination index greater than 0.250). No questions were removed from the paper, which was therefore marked out of 180.

The pass mark for the written examination was raised by 1 SEM above the mark identified by the standard set by the Ebel method from 62% to 64%. The pass rate for the examination has improved to 70%, and remains slightly higher for trainees at 77%.

Nineteen candidates obtained the Ebel mark but fell below the pass mark of Ebel +1 SEM. The addition of +1 SEM has not had a significant impact on the pass rate as recorded in November 2015.

The trend of candidate performance being inversely related to stage of training observed in previous Part 2 written exams (most notable in November 2015) is not the case for this sitting. If the two smallest groups (ST2 n=2 and ST3 n=8) are ignored (both coincidentally being the outliers with Pass rates of 100% and 63% respectively), all ST trainees regardless of their stage of training achieved a pass rate in excess of 65%.

The candidates

171 candidates presented themselves for the examination. 102/171 (60%) were in OST, with the majority (36%) in ST5.

The written paper

The written part 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 must pass the written paper to be allowed to sit the clinical part of the Part 2 FRCOphth 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. No questions were removed from the examination papers for this sitting.

The Part 2 FRCOphth sub-committee reviews all of the questions with negative 33% item discrimination and low facility. There were no questions that required review.

The MCQ paper blueprint

Table 1

		Paper 1	Paper 2	Total
Clinical ophthalmology		64	64	128
	Trauma	2	2	4
	Oculoplastics and orbit	5	5	10
	Glaucoma	5	5	10
	Strabismus	4	4	8
	Paediatrics	4	4	8
	Retina	10	10	20
	Cataract	5	5	10
	Cornea and external eye	10	10	20
	Uveitis and oncology	6	6	12
	Neurology and pupils	8	8	16
	Medicine	5	5	10
Pharmacology & therapeutics	Pharmacology & therapeutics	6	6	12
Investigations		8	8	16
	Ophthalmic	5	4	9
	Orthoptic	1	2	3
	Neuro-imaging	2	1	3
	Other		1	1
Miscellaneous		8	8	16
	Statistics and epidemiology	2	1	3
	Research and EBM	1	2	3
	Nutrition	1		1
	Ethics and driving	2	2	4
	Economics		1	1
	Standards and guidelines	2	2	4
Basic science		4	4	8
	Anatomy and physiology	1	1	2
	Pathology and microbiology	1	1	2
	Genetics	2	1	3
	Optics		1	1
Total		90	90	180

MCQ paper statistics:

Mean score:	122/180	(68%)
Median score:	122/180	(63%)
Standard deviation:	14	(8%)
Candidates:	171	
KR20: (measurement of reliability)	0.8	
Standard error of measurement (SEM):	5.5	
Range of marks:	72 - 155	(40% - 86%)
Pass mark derived from Standard Setting:	111/180	(62%)
<i>(Pass rate without addition of SEM)</i>	139/171	(81%)
Pass mark + 1 SEM	116/180	(64%)
Pass rate:	120/171	(70%)
Pass rate in OST	79/102	(77%)

Table 2 **Distribution of marks**

<i>Score</i>	<i>Distribution</i>	<i>Total</i>
71-75	/	1
76-80		0
81-85		0
86-90		0
91-95	/	2
96-100	///// //	7
101-105	///// /////	10
106-110	///// ///// //	12
111-115	///// ///// ///// ////	19
116-120	///// ///// ///// ///// ///// ///	28
121-125	///// ///// ///// ///// //	23
126-130	///// ///// ///// ///// //	22
131-135	///// ///// ///// /	16
136-140	///// ///// /////	15
141-145	///// ////	9
146-150	///	3
151-155	////	4
<i>Total</i>		171

Analysis of questions

The Speedwell data provides analysis and identification of questions with low, moderate and high facility, and those, which are good, poor or perverse (negative) discriminators. Ideally all questions should have moderate facility and be good discriminators.

Table 3

	Low (<25 correct)	Moderate (25-74 Correct)	High (>75 correct)	Total
Negative discrimination	0	9	3	12
Poor discrimination (0-0.19)	7	37	57	94
Good discrimination (0.2-0.6)	0	44	23	67
Total	7	92	81	180

Standard setting for MCQ paper (Ebel method)

Table 4 Classification of the questions

	Difficult	Moderate	Easy	TOTAL
Essential	1	27	43	71
Important	3	29	54	86
Supplementary	1	11	11	23
Total	5	67	108	180

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	0.6	18.9	34.4	53.9
Important	1.5	15.95	32.4	49.85
Supplementary	0.25	3.3	3.3	6.85
Total	2.35	38.15	70.1	110.6

MCQ pass mark (Ebel + 1 SEM): 116

Breakdown of Written Results

Table 7 Breakdown of written results by training

	Failed	Passed	Total
In OST	23	79 (77%)	102
Not in OST	28	41 (59%)	69
Total	51	120 (70%)	171

Table 8 Breakdown of written results by stage of training

	Failed	Passed	Total
ST1	0	0	0
ST2	0	2 (100%)	2
ST3	3	5 (62%)	8
ST4	7	23 (77%)	30
ST5	6	31 (84%)	37
ST6	6	11 (65%)	17
ST7	1	7 (86%)	8
	23	79 (77%)	102

Table 9 Breakdown of results by deanery

	Failed	Passed	Total
East Midlands	1	6	7
East of England	2	5	7
East of Scotland	0	1	1
KSS	0	2	2
London	6	17	23
Mersey	0	3	3
North of Scotland	0	1	1
North Western	2	6	8
Northern	1	6	7
N Ireland	1	3	4
Oxford	2	3	5
Peninsula	0	2	2
Severn	1	5	6
South of Scotland	1	1	2
Wales	1	5	6
Wessex	1	2	3
West Midlands	1	6	7
West of Scotland	2	3	5
Yorkshire	1	2	3
TOTAL	23	79	102

Table 10 Breakdown of results by number of attempts

Attempt	Failed	Passed	Total
1 (first)	32	72	104
2	12	28	40
3	6	11	17
4	1	8	9
5*	0	1	1
Any re-attempt	19	48	67

Table 11 Comparison with the written papers from previous examinations

Examination	Candidates	Pass mark	Pass rate	Pass rate in OST
September 2008	7	63%	86%	NA
February 2009	15	59%	53%	NA
September 2009	16	61%	38%	NA
February 2010	21	65%	48%	NA
September 2010	26	65%	58%	75%
February 2011	46	65%	46%	50%
September 2011	77	59%	68%	71%
February 2012	104	58%	65%	68%
September 2012	95	57%	81%	84%
February 2013*	109	61%	85%	89%
September 2013	103	59%	93%	97%
February 2014	117	58%	90%	94%
September 2014**	136	63%	70%	71%
December 2014**	106	65%	47%	54%
June 2015**	118	65%	48%	53%
November 2015**	145	64%	41%	46%
June 2016**	171	64%	70%	77%

*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

Table 12 Quality of questions

Exam	Facility				Discrimination		
	Low	Moderate	High		Negative	Poor	Good
Feb 13	8	96	76		15	96	69 (38%)
Sep 13	7	83	88		12	98	68 (38%)
Feb 14	7	98	75		16	102	62 (35%)
Sep 14	5	107	67		10	107	62 (35%)
June 15	9	97	73		17	76	86 (48%)
Nov 15	7	106	65		17	102	59 (33%)
June16	7	90	83		12	101	67 (37%)

Table 13 Cumulative results by deanery (September 2010 to date)

Deanery	Number of passes	Number of candidates	Pass rate %
East Scotland	7	8	88
Oxford	24	31	77
Northern	22	31	71
Severn	19	27	70
North Scotland	7	10	70
Northern Ireland	11	16	69
London KSS	131	194	68
East Midlands	24	37	65
Mersey	23	36	64
South East Scotland	10	17	59
Peninsula	13	23	57
West Midlands	35	64	55
West Scotland	14	26	54
North Western	30	56	54
Yorkshire	34	66	52
Wales	19	39	49
Wessex	11	23	48
East of England	19	40	48
TOTAL	453	744	61