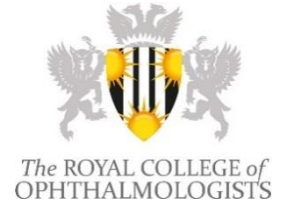


Examination Report



December 2016 Part 2 FRCOphth Written Examination

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Summary

The written paper of the 17th sitting of the part 2 FRCOphth examination was held on 5 December 2016.

This is the sixth 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 0.9), and meets GMC expectations. The proportion of questions with a good item discrimination has fallen to 33% (with a 33% discrimination index greater than 0.250). No questions were removed from paper 1 and 3 questions were removed from paper 2, which was therefore marked out of 177.

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 60% to 64%. The pass rate for the examination has increased from the last sitting to 77%, and continues to remain higher for trainees at 83%. Table 11 reviews the pass rates over the last 8 years. The pass mark was 113/177 (64%), which was slightly lower than June 2015.

Fifteen candidates obtained the Ebel mark (61%) but fell below the pass mark of Ebel +1 SEM (64%). The addition of +1 SEM has had a significant impact on the pass rate which would be 87% rather than 77%.

It was notable that the pass rate of those sitting at their first attempt is good at 76%. These high pass rates are seen across the stages of training, with 100% pass rate of ST3 (n=3) and high pass rates seen in ST4 and 5.

If the performance of the senior trainees is ignored, the pass rate for trainees from ST3-ST5 has increased from 74% to 88%.

The candidates

143 candidates presented themselves for the examination. 65/143 (45%) were in OST, with the majority (48%) 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 2 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 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. Three questions were 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
Clinical ophthalmology		64	62	126
	Trauma	2	2	4
	Oculoplastics and orbit	5	5	10
	Glaucoma	5	5	10
	Strabismus	4	4	8
	Paediatrics	4	4	8
	Retina	10	9	19
	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	4	9
Pharmacology & therapeutics	Pharmacology & therapeutics	6	6	12
Investigations		8	7	15
	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	87*	177

* Three questions were removed from the marking

MCQ paper statistics:

Mean score:	121/177	(68%)
Median score:	122/177	(69%)
Standard deviation:	14	(8%)
Candidates:	143	
KR20: (measurement of reliability)	0.9	
Standard error of measurement (SEM):	5.55	
Range of marks:	69 -152	(39%- 89%)
Pass mark derived from Standard Setting:	107/177	(60%)
<i>(Pass rate without addition of SEM</i>	<i>125/143</i>	<i>(87%)</i>
Pass mark + 1 SEM	113/177	(64%)
Pass rate:	110/143	(77%)
Pass rate in OST	54/65	(83%)

Table 2 **Distribution of marks**

Score	Distribution	Total
66-70	/	1
71-75		0
76-80	/	1
81-85		0
86-90	//	2
91-95	///	3
96-100	////	4
101-105	///// /	6
106-110	///// ///// /	11
111-115	//// / /// ///// /	18
116-120	///// ///// ///// /////	20
121-125	///// ///// ///// ///// /	26
126-130	///// ///// /	14
131-135	///// ///// /	13
136-140	///// /	11
141-145	///// /	10
146-150	//	2
151-155	/	1
<i>Total</i>		143

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	8	3	11
Poor discrimination (0-0.19)	6	37	53	96
Good discrimination (0.2-0.6)	1	51	18	70
Total	7	96	74	177

Standard setting for MCQ paper (Ebel method)

Table 4 Classification of the questions

	Difficult	Moderate	Easy	TOTAL
Essential	1	23	42	66
Important	7	23	55	85
Supplementary	1	8	17	26
Total	9	54	114	177

Table 5 Expected 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	16.1	33.6	50.3
Important	3.5	12.65	33	49.15
Supplementary	0.25	2.4	5.1	7.75
Total	4.35	31.15	71.7	107.2

MCQ pass mark (Ebel + 1 SEM): 113

Breakdown of Written Results

Table 7 Breakdown of written results by training

	Failed	Passed	Total
In OST	11	54 (83%)	65
Not in OST	22	56 (72%)	78
Total	33	110 (77%)	143

Table 8 Breakdown of written results by stage of training

	Failed	Passed	Total
ST1	0	0	0
ST2	0	0	0
ST3	0	3 (100%)	3
ST4	2	8 (80%)	10
ST5	5	26 (84%)	31
ST6	3	14 (82%)	17
ST7	1	3 (75%)	4
	11	54 (83%)	65

Table 9 Breakdown of results by deanery

	Failed	Passed	Total
East Midlands	1	3	4
East of England	0	3	3
East of Scotland	0	1	1
KSS	0	5	5
London	1	9	10
Mersey	2	3	5
North of Scotland	0	0	0
North Western	1	1	2
Northern	0	1	1
N Ireland	0	3	3
Oxford	2	3	5
Peninsula	0	0	0
Severn	1	4	5
South East of Scotland	0	2	2
Wales	0	2	2
Wessex	1	1	2
West Midlands	0	6	6
West of Scotland	1	2	3
Yorkshire	1	5	6
TOTAL	11	54	65

Table 10 Breakdown of results by number of attempts

Attempt	Failed	Passed	Total
1 (first)	22	69	91
2	8	28	36
3	2	10	12
4	1	2	3
5	0	1	1
Any re-attempt	11	41	52

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%	79%
December 2016**	143	64%	77%	83%

*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%)
Jun 16	7	90	83		12	101	67 (37%)
Dec16	7	96	74		11	96	70 (40%)

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

Deanery	Number of passes	Number of candidates	Pass rate %
East Scotland	8	9	89
Oxford	27	36	75
Northern Ireland	14	19	74
Northern	23	32	72
Severn	23	32	72
North Scotland	7	10	70
London KSS	145	209	69
East Midlands	27	41	66
Mersey	26	41	63
South East Scotland	12	19	63
West Midlands	41	70	59
Peninsula	13	23	57
West Scotland	16	29	55
Yorkshire	39	72	54
North Western	31	58	53
Wales	21	41	51
East of England	22	43	51
Wessex	12	25	48
TOTAL	507	809	63