Examination Report

Part 2 Fellowship of the Royal College of Ophthalmologists (FRCOphth) written examination

June 2024

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1 Summary

The written paper of this sitting of the Part 2 Fellowship in Ophthalmology (FRCOphth) examination was held in June 2024.

The reliability of this exam was 0.787, and the percentage of questions with a satisfactory / good item discrimination (≥ 0.20) was 37%. There were four questions removed from the exam paper, with 176 questions remaining.

As per the established process, the standard for the exam was set by adding 1 standard error of measurement to the raw pass mark established by the Ebel method, resulting in a rounded pass mark of 112 out of 176.

The pass rate for the examination was 74.7%.

21 candidates met the raw Ebel mark (60.3%) but fell below the final pass mark of Ebel + 1SEm (63.6%). Therefore, without the application of the SEm, an additional 12% of candidates would have passed the exam. The addition of the SEm to the pass mark adds protection against 'false positive' results.

2 The candidates

174 candidates sat and completed the examination.

3 The written paper

The written part of the part 2 FRCOphth examination consists of a multiple-choice question paper, which is administered in two parts. 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. The Part 2 FRCOphth subcommittee reviews all of the questions with a low item discrimination and facility.

This exam diet, there were four questions removed from the examination papers as a result of this review.

Table 1:   *The MCQ paper blueprint*

Topic	Sub-topic	Number of Questions
Basic Science	Anatomy and physiology	2
	Genetics	3
	Optics and laser	1
	Pathology and microbiology	2
	Sub-total	*8*
Clinical Ophthalmology	Cataract and lens	9
	Cornea and external eye	20
	Glaucoma	10
	Medicine	11
	Neurology and pupils	16
	Oculoplastics and orbit	9
	Ophthalmic	1
	Paediatrics	7
	Retina	20
	Strabismus and motility	8
	Trauma	4
	Uveitis and Oncology	12
	Sub-total	*127*
Investigations	Neuro-imaging	3
	Ophthalmic	7
	Orthoptics	2
	Other/general	1
	Sub-total	*13*
Miscellaneous	Economics	1
	Ethics and driving	4
	Guidelines and standards	4
	Nutrition	1
	Research and EBM	3
	Statistics and epidemiology	3
	Sub-total	*16*
Pharmacology and therapeutics	Pharmacology and therapeutics	12
	Sub-total	*12*
	Grand Total	**176**

4 Results

Table 2:   *MCQ statistics*

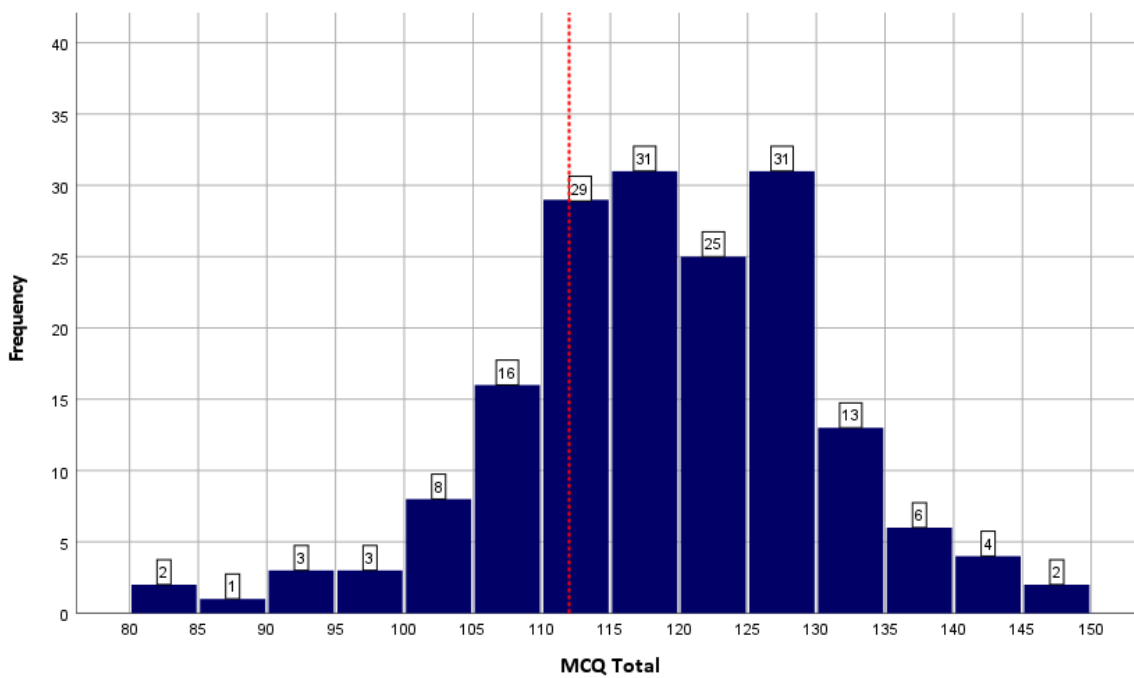| Statistic	Value	Percentage
Mean score:	118.56 / 176	67.4%
Median score:	118 / 176	67.0%
Standard deviation:	11.78	6.7%
Candidates:	174	
Reliability:	0.787	
Standard error of measurement (SEM):	5.44	3.1%
Range of marks:	81 - 148	46.0% - 84.1%
Pass mark derived from standard setting:	106.10 / 176	60.3%
Pass mark + 1 SEM (rounded):	112 / 176	63.6%
Pass rate:	130 / 174	74.7%

Figure 1:   *Distribution of scores (red dotted line denotes pass mark)*

4.1 Analysis of questions

Item analysis data allows us to identify easy, moderate, and difficult questions (Facility values), and those which are good, poor, or negative discriminators (Point Biserial values). Optimally, the majority of questions should be of moderate difficulty, and satisfactory or good discriminators.

Table 3: *Discrimination against facility value*

		Facility Value			
		Low (<25% correct)	Moderate (≥25% - <75% correct)	High (≥75% correct)	Total
Discrimination	Negative	1	3	3	*7*
	Poor (0-0.19)	8	54	42	*104*
	Satisfactory/Good (≥0.20)	0	30	35	*65*
	Total	9	87	80	*176*

4.2 Standard setting for multiple choice questions (MCQ) paper (Ebel method)

Table 4: *Classification of the questions*

	Difficult	Moderate	Easy	Total
Essential	2	15	54	71
Important	8	22	43	73
Supplementary	6	10	16	32
Total	16	47	113	176

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	Total
Essential	1.20	10.50	43.20	*54.90*
Important	4.00	12.10	25.80	*41.90*
Supplementary	1.50	3.00	4.80	*9.30*
Total	*6.70*	*25.60*	*73.80*	106.10

SEM:	5.44
MCQ pass mark (Ebel + 1 SEM):	112 (rounded)

4.3 Comparison to previous years

Table 7: *Comparison with the written papers from previous examinations*

Examination	Candidates	Pass mark	Pass rate	Pass rate in OST
June 2024**	174	63.60%	74.70%	~
Dec 2023**	202	65.60%	64.90%	~
June 2023**	180	65.20%	60.60%	~
Dec 2022**	167	63.00%	66.00%	75.00%
Jun 2022**	216	62.00%	81.00%	87.00%
Dec 2021**	203	65.00%	72.00%	84.00%
Jul 2021**	151	66.00%	70.00%	78.00%
Dec 2020**	202	65.00%	45.00%	52.00%
Dec 2019**	128	62.00%	70.00%	84.00%
Jul 2019**	121	66.00%	64.00%	68.00%
Dec 2018**	127	65.00%	58.00%	59.00%
Jul 2018**	90	65.00%	61.00%	77.00%
Dec 2017**	121	62.00%	64.00%	66.00%
Jul 2017**	113	63.00%	59.00%	72.00%
Dec 2016**	143	64.00%	77.00%	83.00%
Jun 2016**	171	64.00%	70.00%	79.00%
Nov 2015**	145	64.00%	41.00%	46.00%
Jun 2015**	118	65.00%	48.00%	53.00%
Dec 2014**	106	65.00%	47.00%	54.00%
Sep 2014**	136	63.00%	70.00%	71.00%
Feb 2014	117	58.00%	90.00%	94.00%
Sept 2013	103	59.00%	93.00%	97.00%
Feb 2013*	109	61.00%	85.00%	89.00%
Sept 2012	95	57.00%	81.00%	84.00%
Feb 2012	104	58.00%	65.00%	68.00%
Sept 2011	77	59.00%	68.00%	71.00%
Feb 2011	46	65.00%	46.00%	50.00%
Sept 2010	26	65.00%	58.00%	75.00%
Feb 2010	21	65.00%	48.00%	~
Sept 2009	16	61.00%	38.00%	~
Feb 2009	15	59.00%	53.00%	~
Sept 2008	7	63.00%	86.00%	~

* 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
~ Data not available

Table 8: *Quality of questions compared to previous years**

Exam	Facility				Discrimination		
	Low	Moderate	High		Negative	Poor	Good
June 2024	**5.1%**	**49.4%**	**45.5%**		**4.0%**	**59.1%**	**36.9%**
Dec 2023	4.4%	53.3%	42.2%		3.9%	55.0%	41.1%
June 2023	4.5%	56.7%	38.8%		4.5%	50.6%	44.9%
Dec 2022	7.3%	53.9%	38.8%		7.9%	51.7%	39.9%
Jun 2022	3.4%	55.1%	41.5%		11.9%	60.2%	27.8%
Dec 2021	5.1%	47.2%	47.8%		9.6%	56.2%	34.3%
Jul 2021	6.1%	48.3%	45.6%		8.9%	54.4%	36.7%
Dec 2020	7.8%	52.0%	40.2%		10.6%	58.1%	31.3%
Dec 2019	6.2%	51.7%	42.0%		11.9%	58.5%	29.5%
Jul 2019	1.7%	55.2%	43.1%		12.6%	58.6%	28.7%
Dec 2018	5.1%	50.3%	44.6%		10.2%	57.1%	32.8%
Jul 2018	2.2%	53.9%	43.8%		9.6%	50.0%	40.4%
Dec 2017	4.5%	56.2%	39.3%		8.4%	50.6%	41.0%
Jul 2017	n/a	n/a	n/a		n/a	n/a	n/a
Nov 2016	4.0%	54.2%	41.8%		6.2%	54.2%	39.5%
Jun 2016	3.9%	50.0%	46.1%		6.7%	56.1%	37.2%
Nov 2015	3.9%	59.6%	36.5%		9.6%	57.3%	33.1%
Jun 2015	5.0%	54.2%	40.8%		9.5%	42.5%	48.0%
Sep 2014	2.8%	59.8%	37.4%		5.6%	59.8%	34.6%
Feb 2014	3.9%	54.4%	41.7%		8.9%	56.7%	34.4%
Sep 2013	3.9%	46.6%	49.4%		6.7%	55.1%	38.2%
Feb 2013	4.4%	53.3%	42.2%		8.3%	53.3%	38.3%