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PSYCHOMETRIC
SOLUTIONS
GROUP

Examination Report

Part 1 Fellowship of the Royal College of
Ophthalmologists (FRCOphth) Examination

April 2023

Kiran Sanghara, Lucy Foard, Sian Williams

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1 Summary

The Part 1 Fellowship of the Royal College of Ophthalmologists (FRCOphth) examination took place in April 2023. A total of 224 candidates sat the examination, of which 90 (40.2%) fulfilled the criteria required to pass the examination overall.

The multiple-choice question (MCQ) exam showed excellent reliability, with an alpha of $\alpha=0.91$.

2 Multiple choice question (MCQ) paper

The table below gives the paper contents by subject area, compared with previous exam diets / years.

Table 1: MCQ paper content

Date of Exam	Anatomy/embryology	Optics	Pathology	Pharmacology & genetics	Physiology	Miscellaneous	Investigations	Total
Apr - 23	26	48	32	14	16	19	24	179*
Jan-23	26	48	32	14	17	27	16	180
Oct-22	27	32	28	26	22	19	24	178*
Apr-22	27	32	27	26	22	19	21	174*
Jan-22	25	31	28	26	23	19	24	176*
Apr-21	26	32	27	26	23	20	24	178*
Jan-21	27	32	27	17	22	24	20	177*
Oct-20	24	24	23	18	23	8		120
Jan-20	24	24	23	18	23	8		120
Oct-19	24	23	23	18	23	8		119*
Apr-19	24	24	22	18	23	8		119*
Jan-19	22	24	23	18	22	8		117*
Oct-18	24	24	23	18	23	8		120
May-18	24	24	23	18	23	8		120
May-17	24	24	23	18	23	7		119*
Jan-17	24	24	22	18	23	8		119*
Oct-16	24	24	23	18	23	8		120
May-16	24	24	22	18	23	8		119*
Jan-16	24	23	23	18	23	8		119*
Oct-15	24	24	23	18	23	8		120
May-15	24	24	23	18	23	8		120
Jan-15	24	24	23	18	23	8		120
Oct-14	24	24	23	18	23	8		120

* = questions removed

Category groupings

Presented category	Topic of question
Anatomy/embryology	Anatomy, Embryology
Optics	Optics
Pathology	Immunology, Microbiology, Pathology
Pharmacology & genetics	Pharmacology, Pharmacology and Genetics, Genetics
Physiology	Biochemistry, Cell Biology, Physiology
Investigations	Investigations
Miscellaneous	Statistics, Epidemiology

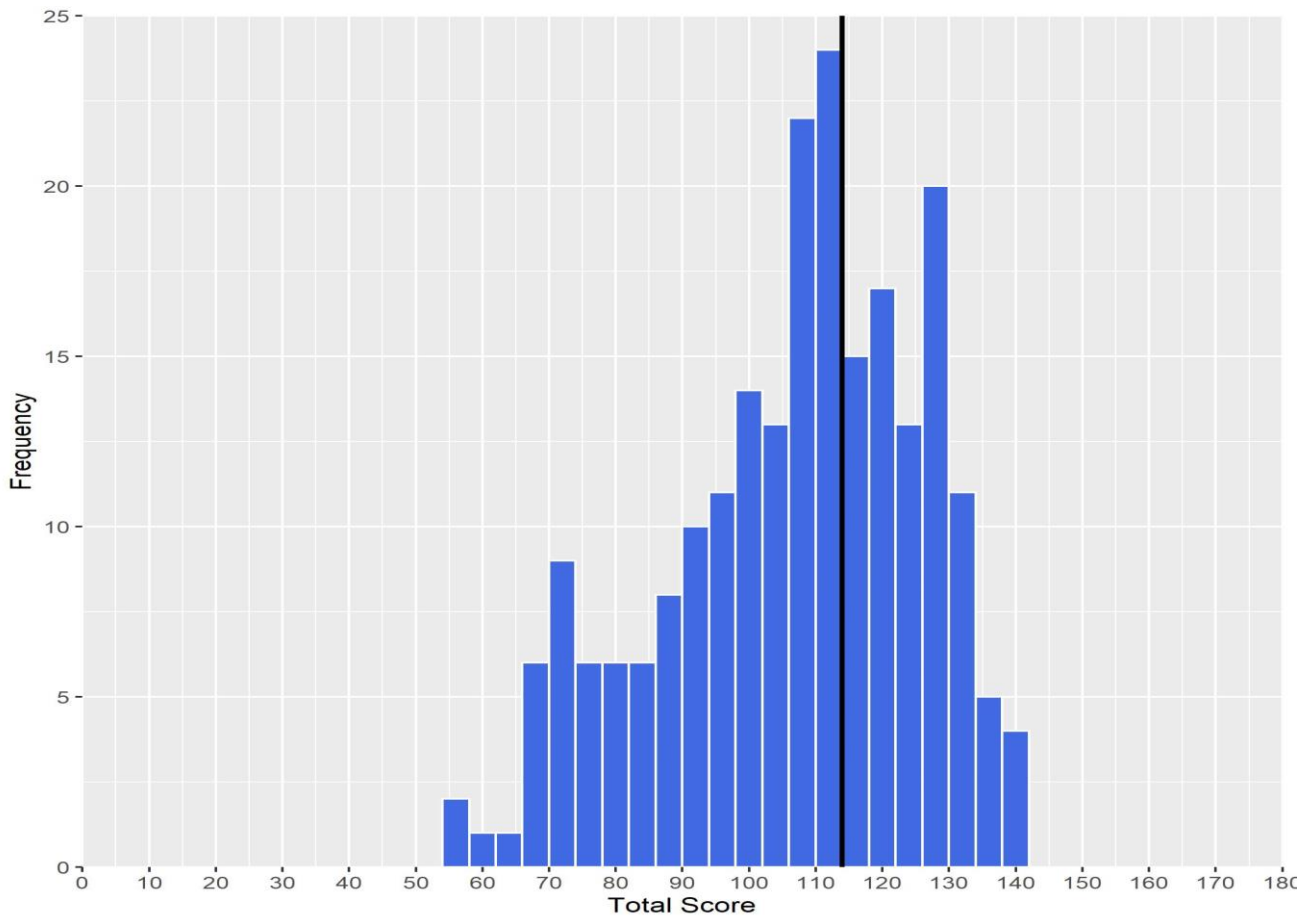
The MCQ paper was lengthened from 120 to 180 questions for the first time in Jan 2021, largely by increasing the number of Investigations and Miscellaneous items, making the breakdown of the two categories' items more important than it has been historically.

2.1 Paper statistics

Table 2: MCQ paper summary statistics

Statistic	Value	Percentage
Mean score	107/179	59.8%
Median score	110/179	61.5%
Standard deviation	19.1	10.7%
Candidates	224	
Reliability: Cronbach's alpha	0.91	
Standard error of measurement (SEM)	5.74	3.2%
Range of marks	55-142	
Pass mark derived from standard setting	114/179	63.7%
Pass mark - 1 SEM (rounded)	108/179	60.3%
Pass rate	90/224	40.2%

Figure 1: Histogram showing distribution of total scores – MCQ



The vertical line denotes the point of the score distribution where the pass mark lies.

2.2 Quality of questions

Item analysis data allows us to identify easy, moderate and difficult questions, and those which are good, poor or negative discriminators. Optimally, all questions should be moderately difficult and good discriminators.

Table 3: MCQ paper quality

			33% Discrimination							Total	%
			Negative		Poor		Good				
			<0		0-0.249		≥0.250				
			Number	%	Number	%	Number	%			
Facility	Difficult	<25%	4	2.2	10	5.6	0	0.0	14	7.8	
	Moderate	25–75%	9	5.0	47	26.3	59	33.0	115	64.2	
	Easy	≥75%	1	0.6	28	15.6	21	11.7	50	27.9	
	Total		14	7.8	85	47.5	80	44.7	179	100	

2.3 Standard setting

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

Table 4: MCQ Ebel categories - items per category

	Difficult	Moderate	Easy	Total
Essential	1	28	86	115
Important	5	26	23	54
Supplementary	1	7	2	10
Total	7	61	111	179

The Part 1 FRCOphth subcommittee considered the success of a minimally competent candidate in each category as below:

Table 5: MCQ Ebel categories – expert decision

	Difficult	Moderate	Easy
Essential	0.55	0.65	0.75
Important	0.45	0.50	0.55
Supplementary	0.25	0.25	0.25

Table 6: MCQ Ebel categories – items per category X expert decision

	Difficult	Moderate	Easy	Total*
Essential	1	18	65	83
Important	2	13	13	28
Supplementary	0	2	1	3
Total	3	33	78	114

*Please note, due to rounding of individual categories to whole numbers, total numbers may be +/- 1 difference

The MCQ exam pass mark was 114/179 (63.7%).

Table 7: Comparison of pass marks and rates for previous MCQ papers

Year	Candidates	Mean score	Reliability	SEM	Standard setting	Pass mark	33% discrimination			Facility			Number of questions	Pass number (rate - rounded)
			(KR 20)				Negative	Poor	Good	Difficult	Moderate	Easy		
								(0-0.249)	(>0.250)	(<25%)		(>75%)		
Apr-23	224	107	0.91	5.74	Ebel	114 (63.7%)	14	85	80	14	115	50	179	90 (40%)
Jan-23	169	103	0.87	5.88	Ebel	111 (62%)	18	116	46	14	123	43	180	60 (36%)
Oct-22	340	111	0.91	5.67	Ebel	115 (65%)	10	77	91	10	107	61	178	163 (48%)
Apr-22	253	102	0.9	5.76	Ebel	112 (64%)	9	90	75	7	122	45	174	84 (33%)
Jan-22	160	102	0.89	5.73	Ebel	111 (63%)	19	84	73	15	111	50	176	56 (35%)
Apr-21	227	107	0.89	5.73	Ebel	112 (63%)	12	97	69	9	110	59	178	95 (42%)
Jan-21	149	107	0.89	5.63	Ebel	116 (66%)	7	105	65	15	108	54	177	51 (34%)
Oct-20	365	77	0.87	4.56	Ebel	73 (61%)	6	63	51	8	63	49	120	240 (66%)
Jan-20	130	60	0.97	4.54	Ebel	73 (61%)	1	20	99	15	96	9	120	45 (35%)
Oct-19	186	68	0.84	4.67	Ebel	72 (61%)	10	65	44	13	68	38	119	81 (44%)
Apr-19	119	72	0.89	4.7	Ebel	73 (61%)	10	46	63	9	79	31	119	64 (54%)
Jan-19	96	65	0.82	4.68	Ebel	70 (60%)	15	63	39	15	70	32	117	39 (41%)
Oct-18	214	70	0.86	4.84	Ebel	72 (60%)	7	68	45	4	87	29	120	103 (48%)
May-18	119	70	0.83	4.73	Ebel	72 (60%)	15	61	44	9	70	41	120	59 (50%)
May-17	136	69	0.8	4.8	Ebel	75 (63%)	6	63	50	8	89	22	119	45 (33%)
Jan-17	101	64	0.8	NA	Ebel	71 (60%)								
Oct-16	194	71	0.88	4.8	Ebel	72 (60%)	5	49	66	9	88	23	120	72 (37%)
May-16	123	70	0.9	4.9	Ebel	71 (60%)	6	34	79	3	90	26	119	71 (58%)
Jan-16	107	69	0.9	4.9	Ebel	71 (59%)	3	55	62	6	91	23	119	47 (44%)
Oct-15	188	68	0.85	4.9	Ebel	71 (60%)	3	59	58	6	90	24	120	79 (42%)
May-15	114	72	0.89	4.7	Ebel	68 (57%)	3	47	70	5	90	25	120	73 (64%)
Jan-15	89	69	0.86	4.9	Ebel	69 (58%)	9	56	55	9	91	20	120	53 (60%)
Oct-14	232	72	0.9	4.8	Ebel	69 (58%)	5	40	75	3	94	23	120	144 (62%)

* For Jan 2021 and subsequent diets, the MCQ paper was lengthened from 120 to 180 questions.

2.4 Comparison with previous Part 1 examinations

Table 8: Key statistics in previous years

Examination	Candidates	Number passing	% passed (rounded)	MCQ pass mark %	CRQ pass mark %
Apr-23	224	90	40.2	63.7	N/A
Jan-23	169	60	36	62	N/A
Oct-22	340	163	48	65	N/A
Apr-22	253	84	33	64	N/A
Jan-22	160	56	35	63	N/A
Apr-21	227	95	42	63	N/A
Jan-21	149	51	34	66	N/A
Oct-20	369	230	62	61	52
Jan-20	116	53	46	61	52
Oct-19	186	89	48	61	51
Apr-19	119	45	38	61	51
Jan-19	96	37	39	60	50
Oct-18	214	122	57	60	55
May-18	119	64	54	60	54
May-17	136	62	46	63	53
Jan-17	101	38	38	60	51
Oct-16	194	70	36	60	59
May-16	123	61	50	60	56
Jan-16	107	36	34	59	54
Oct-15	188	57	30	59	59
May-15	114	62	54	57	54
Jan-15	89	50	56	58	61
Oct-14	232	102	44	58	57
May-14	119	55	46	58	56

* For Jan 2021 and subsequent diets, the CRQ paper was removed (and 50 per cent more items were added to the MCQ).

Table 9: Comparison to previous years (May 2014 to present)

Sitting	Candidates	Number Passing	Pass rate (%)
January	818	321	39
April May	1434	618	43
October	1723	833	48
<i>Total</i>	<i>3751</i>	<i>1682</i>	<i>45</i>

2.5 Breakdown of results

Table 10: Breakdown of results by deanery

	Deanery	Failed	Passed	Total
UK	East Midlands (North Centre - Nottingham)	4	1	5
	East Midlands (South Centre - Leicester Northants & Rutland)	1	0	1
	East of England	2	5	7
	East of Scotland	0	4	4
	Kent, Surrey and Sussex	4	2	6
	London	8	11	19
	Mersey	2	3	5
	North of Scotland	1	0	1
	North Western	3	2	5
	Northern	2	0	2
	Northern Ireland	0	1	1
	Oxford	2	2	4
	Severn Institute	1	0	1
	South East of Scotland	1	0	1
	South West Peninsulas Institute	1	2	3
	South Yorkshire & South Humberside	1	1	2
	Wales	3	1	4
	Wessex Institute	1	0	1
	West Midlands	5	2	7
	Yorkshire	3	5	8
Overseas	Eire	6	1	7
	Europe and Overseas	6	6	12
Other	Not Applicable/Unknown	77	41	118
	Total	134	90	224

Table 11: Breakdown of results by number of attempts

Attempt	Fail	Pass	Total	Pass Rate
1	70	52	122	42.6
2	41	22	63	34.9
3	10	9	19	47.4
4	7	3	10	30.0
5	4	1	5	20.0
6	2	3	5	60.0
Total	134	90	224	

Appendix 1: Overall results for each deanery

Result data by deanery has been available since October 2010. The summary results for each deanery are listed below.

Table 12: Cumulative pass by deanery

County	Deanery	Total candidates passed	Total candidates sitting	Pass rate %
UK	East Midlands	49	109	45.0
	East of England	71	153	46.4
	East of Scotland	21	30	70.0
	Kent, Surrey and Sussex	56	99	56.6
	London	181	338	53.6
	Mersey	52	125	41.6
	North of Scotland	24	51	47.1
	North Western	50	96	52.1
	Northern	49	93	52.7
	Northern Ireland	36	86	41.9
	Oxford	31	53	58.5
	Peninsula (South West)	35	78	44.9
	Severn	21	39	53.8
	South East of Scotland	25	40	62.5
	South Yorks & Humberside	2	3	66.7
	Wales	55	116	47.4
	Wessex	56	123	45.5
	West Midlands	99	212	46.7
	West of Scotland	64	129	49.6
	Yorkshire	74	136	54.4
Overseas	Eire	11	39	28.2
	Europe and Overseas	54	137	39.4
Other	Not applicable / Unknown	153	391	39.1
Total		1269	2676	47.4