Examination Report

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

October 2023

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Contents

1   Summary

The Part 1 Fellowship of the Royal College of Ophthalmologists (FRCOphth) examination took place in October 2023. A total of 300 candidates sat the examination, of which 99 (33.0%) fulfilled the criteria required to pass the examination overall.

Four questions were removed from the exam prior to final results calculation, in order to maintain the fairness and quality of the exam. This led to the maximum number of marks for the exam being adjusted to 176 (from 180).

The multiple-choice question (MCQ) exam showed excellent reliability, with an alpha of $\alpha=0.896$.

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
Oct-23	**24**	**48**	**32**	**13**	**17**	**22**	**20**	**176***
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

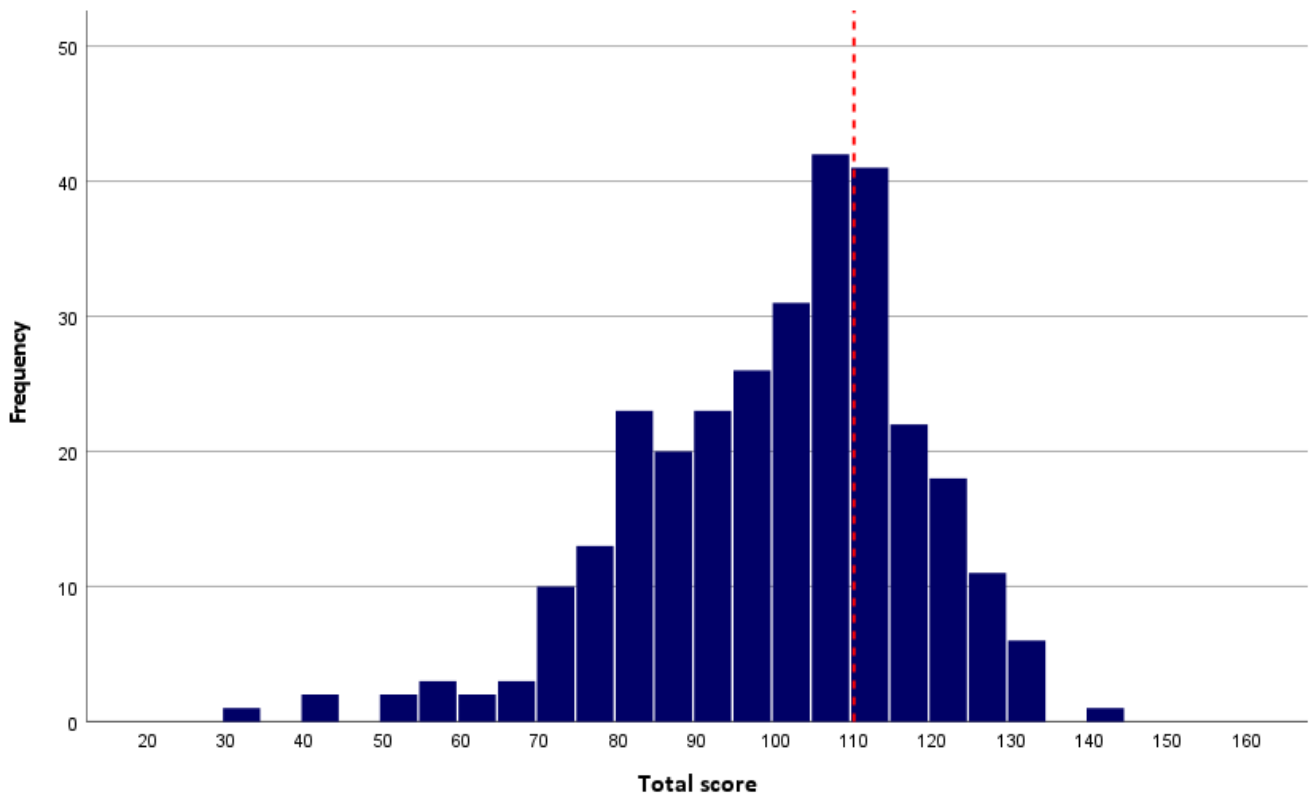| Presented category	Topic of question
Anatomy/ embryology	Anatomy, Embryology
Optics	Optics
Pathology	Immunology, Microbiology, Pathology
Pharmacology & genetics	Pharmacology, Pharmacology and Genetics, Genetics
Physiology	Biochemistry, Cell Biology, Physiology
Investigations	Investigations
Miscellaneous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

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	100.10	56.9%
Median score	103.00	58.5%
Standard deviation	17.81	10.1%
Candidates	300	
Reliability: Cronbach's alpha	0.896	
Standard error of measurement (SEM)	5.74	3.3%
Range of marks	32 - 142	18.2% - 80.7%
Pass mark derived from standard setting	110 / 176	62.5%
Pass rate	99 / 300	33.0%

Figure 1:   Histogram showing distribution of total scores – MCQ

The vertical red dashed line denotes the point in 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%	3	1.7	11	6.2	0	0.0	*14*	*8.0*
	Moderate	25−75%	10	5.7	41	23.3	70	39.8	*121*	*68.7*
	Easy	>75%	0	0.0	14	8.0	27	15.3	*41*	*23.3*
		Total	*13*	*7.4*	*66*	*37.5*	*97*	*55.1*	***176***	***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	5	27	79	*111*
Important	3	24	25	*52*
Supplementary	3	5	5	*13*
Total	*11*	*56*	*109*	*176*

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	3	18	59	*80*
Important	1	12	14	*27*
Supplementary	1	1	1	*3*
Total	*5*	*31*	*74*	110

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

The MCQ exam pass mark was 110/176 (62.5%).

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

Year	Candidates	Mean score	Reliability (KR 20)	SEM	Standard setting	Pass mark	33% discrimination Negative	Poor (0-0.249)	Good (>0.250)	Difficult (<25%)	Facility Moderate	Easy (>75%)	Number of questions	Pass number (rate - rounded)
Oct-23	300	100	0.90	5.74	Ebel	110 (62.5%)	13	66	97	14	121	41	176	99 (33%)
Apr-23	224	107	0.91	5.74	Ebel	114 (64%)	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%)

* 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 %
Oct-23	300	99	33	62.5	N/A
Apr-23	224	90	40	64	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	2023	932	46
Total	*4275*	*1871*	*44*

2.5 Breakdown of results

Table 10: Breakdown of results by deanery

	Deanery	Failed	Passed	Total
UK	East Midlands (North Centre - Nottingham)	6	1	7
	East Midlands (South Centre - Leicester Northants & Rutland)	4	0	4
	East of England	6	4	10
	East of Scotland	2	0	2
	Kent, Surrey, and Sussex	7	4	11
	London	17	8	25
	Mersey	4	0	4
	Northwestern	5	5	10
	Northern	2	0	2
	Northern Ireland	1	0	1
	Oxford	4	3	7
	Severn Institute	2	0	2
	Southeast of Scotland	2	0	2
	Southwest Peninsulas Institute	2	0	2
	Wales	0	1	1
	Wessex Institute	6	2	8
	West Midlands	5	2	7
	West of Scotland	1	1	2
	Yorkshire	5	1	6
Overseas	Eire	5	1	6
	Europe and Overseas	19	12	31
Other	Not Applicable/Unknown	96	54	150
	Total	201	99	300

Appendix 1: Overall results for each deanery

The summary results of cumulative data for each deanery are listed below.

Table 11: Cumulative pass by deanery

Deanery	Total candidates passed	Total candidates sitting	Pass rate %
East Midlands	50	120	41.7
East of England	75	163	46.0
East of Scotland	21	32	65.6
Kent, Surrey, and Sussex	60	110	54.5
London	189	363	52.1
Mersey	52	129	40.3
North of Scotland	24	51	47.1
Northwestern	55	106	51.9
Northern	49	95	51.6
Northern Ireland	36	87	41.4
Oxford	34	60	56.7
Peninsula (Southwest)	35	80	43.8
Severn	21	41	51.2
Southeast of Scotland	25	42	59.5
South Yorks & Humberside	2	3	66.7
Wales	56	117	47.9
Wessex	58	131	44.3
West Midlands	101	219	46.1
West of Scotland	65	131	49.6
Yorkshire	75	142	52.8
Eire	12	45	26.7
Europe and Overseas	66	168	39.3
Not applicable / Unknown	207	541	38.3
Total	**1368**	**2976**	**46.0**