



# Examination Report

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

July 2021

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# Contents

<b>1 Summary</b> .....	<b>3</b>
<b>2 The candidates</b> .....	<b>3</b>
<b>3 The written paper</b> .....	<b>3</b>
<b>4 Results</b> .....	<b>5</b>
4.1 Analysis of questions .....	6
4.2 Standard setting for multiple choice questions (MCQ) paper (Ebel method) .....	7
4.3 Breakdown of written results .....	8
4.4 Comparison to previous years .....	10

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## 1 Summary

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The written paper of this sitting of the Part 2 Fellowship in Ophthalmology (FRCOphth) examination was held in July 2021.

The reliability of this exam was 0.82, whilst the percentage of questions with a good item discrimination ( $> 0.25$ ) was 21 per cent. No questions were removed from paper 1 and no questions were removed from paper 2; therefore the examination was 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 66 per cent (to 118/180). The pass rate for the examination was 70 per cent.

Sixteen candidates obtained the Ebel mark (62 per cent) but fell below the pass mark of Ebel +1 SEM (66 per cent). The addition of +1 SEM has had a substantial impact on the pass rate, which would be 80 per cent rather than 70 per cent without the addition of the SEM.

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## 2 The candidates

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There were 151 candidates for the examination. Of these 73/151 (48 per cent) were in Ophthalmic Specialist Training (OST). The largest group (25 per cent) were in training level OST2.

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## 3 The written paper

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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.

Table 1: The MCQ paper blueprint

Topic	Sub-Topic	Paper 1	Paper 2	Total
Clinical Ophthalmology	Trauma	2	2	4
	Oculoplastic & 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 & External Eye	10	10	20
	Uveitis & Oncology	6	6	12
	Neurology & Pupils	8	8	16
	Medicine	5	5	10
Pharmacology & Therapeutics	Pharmacology & Therapeutics	6	6	12
Investigations	Ophthalmic	5	4	9
	Orthoptic	1	2	3
	Neuro-Imaging	2	1	3
	Other	0	1	1
Miscellaneous	Statistics and epidemiology	2	1	3
	Research and EBM	1	2	3
	Nutrition	1	0	1
	Ethics and driving	2	2	4
	Standards and guidelines	2	2	4
	Economics	0	1	1
Basic Science	Anatomy and physiology	1	1	2
	Pathology and microbiology	1	1	2
	Genetics	2	1	3
	Optics	0	1	1
<b>Total</b>		<b>90</b>	<b>90</b>	<b>180</b>

## 4 Results

Table 2: MCQ Statistics

Statistic	Value	Percentage
Mean score:	124/180	68.9%
Median score:	126/180	70.0%
Standard deviation:	12.8	7.1%
Candidates:	151	
Reliability:	0.82	
Standard error of measurement (SEM):	5.37	3.0%
Range of marks:	90 - 160	50.0% - 88.9%
Pass mark derived from standard setting:	113/180	62.8%
<i>Pass rate without addition of SEM:</i>	<i>121/151</i>	<i>80.1%</i>
<b>Pass mark + 1 SEM:</b>	<b>118/180</b>	<b>65.6%</b>
<b>Pass rate:</b>	<b>105/151</b>	<b>69.5%</b>
<i>Pass rate in OST:</i>	<i>57/73</i>	<i>78.1%</i>

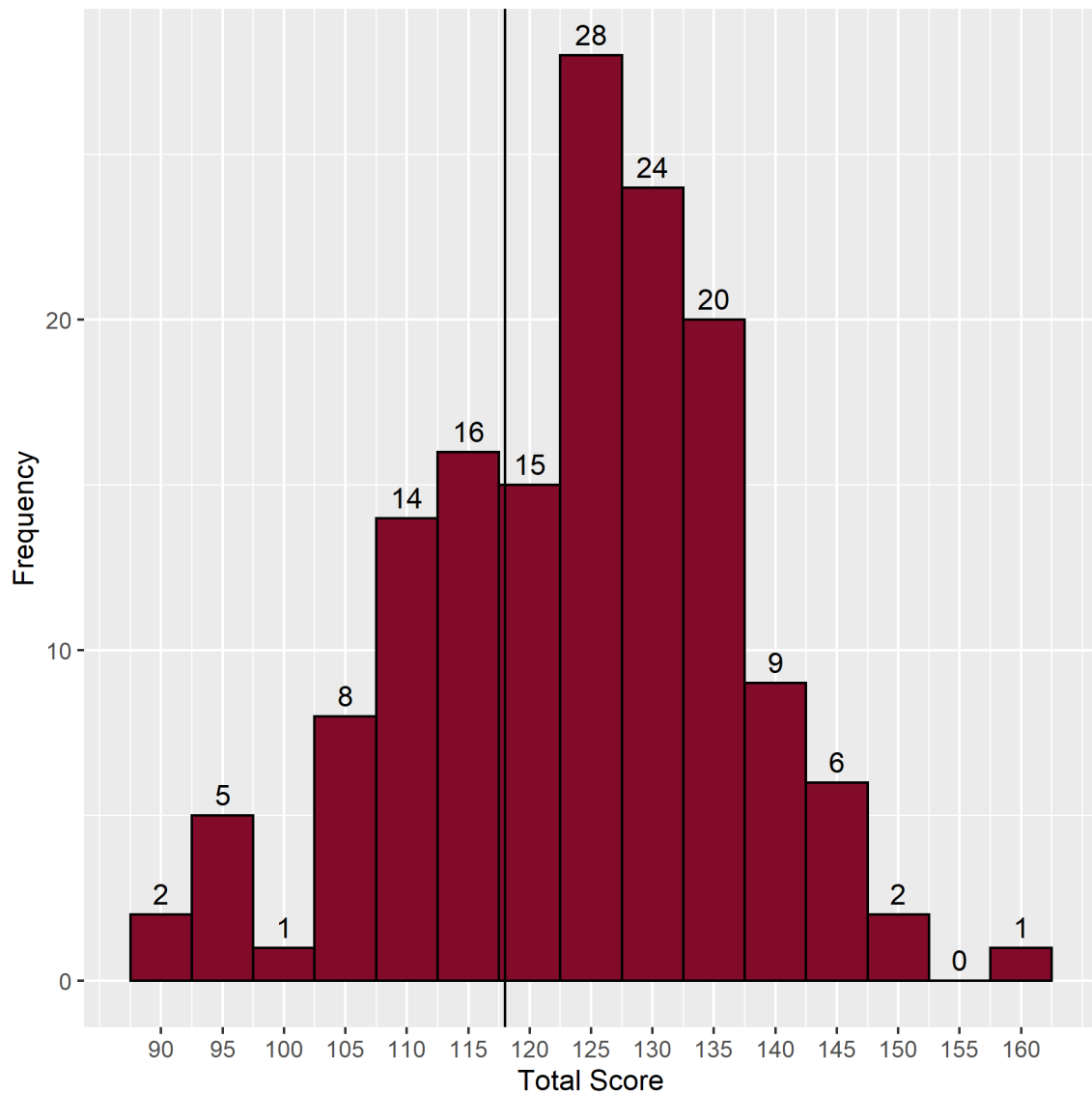


Figure 1: *Distribution of scores*

#### 4.1 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: Discrimination against facility value

	Facility Value				
		Low (<25 correct)	Moderate (25-74 correct)	High (≥75 correct)	Total
Discrimination	Negative discrimination	4	8	4	16
	Poor discrimination (0-0.19)	7	45	46	98
	Good discrimination (0.2-1.0)	0	34	32	66
	<b>Total</b>	<b>11</b>	<b>87</b>	<b>82</b>	<b>180</b>

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

Table 4: Classification of the questions

	Difficult	Moderate	Easy	Total
Essential	1	22	59	82
Important	6	24	42	72
Supplementary	3	13	10	26
<b>Total</b>	<b>10</b>	<b>59</b>	<b>111</b>	<b>180</b>

Table 5: Expected percentage correct by borderline candidates

	Difficult	Moderate	Easy
Essential	0.60	0.70	0.80
Important	0.50	0.55	0.60
Supplementary	0.25	0.30	0.30

Table 6: Weighted score

	Difficult	Moderate	Easy	Total
Essential	0.60	15.40	47.20	63.20
Important	3.00	13.20	25.20	41.40
Supplementary	0.75	3.90	3.00	7.65
<b>Total</b>	<b>4.35</b>	<b>32.50</b>	<b>75.40</b>	<b>112.25</b>

SEM: 5.37  
 MCQ pass mark (Ebel + 1 SEM): 118

### 4.3 Breakdown of written results

Table 7: Breakdown of written results by training

Training	Failed	Passed	Pass rate (%)	Total
In OST	16	57	78.1	73
Not in OST	27	40	59.7	67
Unknown	3	8	72.7	11
<b>Total</b>	<b>46</b>	<b>105</b>	<b>69.5</b>	<b>151</b>

Table 8: Breakdown of written results by stage of training

Training	Failed	Passed	Pass rate (%)	Total
FY2	1	2	66.7	3
MO ST4	1	0	0.0	1
OST1	2	12	85.7	14
OST2	2	16	88.9	18
OST3	5	12	70.6	17
OST4	0	6	100.0	6
OST5	4	6	60.0	10
OST6	0	3	100.0	3
OST7	1	0	0.0	1
<b>Total</b>	<b>16</b>	<b>57</b>	<b>78.1</b>	<b>73</b>



Table 9: Breakdown of results by deanery

Country	Deanery	Failed	Passed	Total
UK	East Midlands	1	2	3
	East of England	0	4	4
	Kent, Surrey and Sussex	1	6	7
	London and KSS (Kent, Surrey and Sussex)	4	9	13
	Mersey	0	2	2
	North Western	0	5	5
	Northern	2	4	6
	Oxford	0	3	3
	Peninsula (South West)	1	2	3
	Severn Institute	0	2	2
	South East of Scotland	1	5	6
	Wales	2	4	6
	Wessex	1	2	3
	West Midlands	0	2	2
	West of Scotland	0	2	2
Yorkshire	3	3	6	
Overseas	Europe and Overseas	0	0	0
<b>Total</b>	<b>Total</b>	<b>16</b>	<b>57</b>	<b>73</b>

## 4.4 Comparison to previous years

Table 10: Comparison with the written papers from previous examinations

Examination	Candidates	Pass mark	Pass rate	Pass rate in OST
Sep 2008	7	63.0%	86.0%	
Feb 2009	15	59.0%	53.0%	
Sep 2009	16	61.0%	38.0%	
Feb 2010	21	65.0%	48.0%	
Sep 2010	26	65.0%	58.0%	75.0%
Feb 2011	46	65.0%	46.0%	50.0%
Sep 2011	77	59.0%	68.0%	71.0%
Feb 2012	104	58.0%	65.0%	68.0%
Sep 2012	95	57.0%	81.0%	84.0%
Feb 2013*	109	61.0%	85.0%	89.0%
Sep 2013	103	59.0%	93.0%	97.0%
Feb 2014	117	58.0%	90.0%	94.0%
Sep 2014**	136	63.0%	70.0%	71.0%
Dec 2014**	106	65.0%	47.0%	54.0%
Jun 2015**	118	65.0%	48.0%	53.0%
Nov 2015**	145	64.0%	41.0%	46.0%
Jun 2016**	171	64.0%	70.0%	79.0%
Dec 2016**	143	64.0%	77.0%	83.0%
Jul 2018**	90	65.0%	61.0%	77.0%
Dec 2018**	127	65.0%	58.0%	59.0%
Jul 2019**	121	66.0%	64.0%	68.0%
Dec 2019**	128	62.0%	70.0%	84.0%
Dec 2020**	202	65.0%	45.0%	52.0%
Jul 2021**	151	66.0%	70.0%	78.0%

\* 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 11: Quality of questions compared to previous years

Exam	Facility			Discrimination		
	Low	Moderate	High	Negative	Poor	Good
Feb 2013	4.4%	53.3%	42.2%	8.3%	53.3%	38.3%
Sep 2013	3.9%	46.6%	49.4%	6.7%	55.1%	38.2%
Feb 2014	3.9%	54.4%	41.7%	8.9%	56.7%	34.4%
Sep 2014	2.8%	59.8%	37.4%	5.6%	59.8%	34.6%
Jun 2015	5.0%	54.2%	40.8%	9.5%	42.5%	48.0%
Nov 2015	3.9%	59.6%	36.5%	9.6%	57.3%	33.1%
Jun 2016	3.9%	50.0%	46.1%	6.7%	56.1%	37.2%
Nov 2016	4.0%	54.2%	41.8%	6.2%	54.2%	39.5%
Jul 2018	2.2%	53.9%	43.8%	9.6%	50.0%	40.4%
Dec 2018	5.1%	50.3%	44.6%	10.2%	57.1%	32.8%
Jul 2019	1.7%	55.2%	43.1%	12.6%	58.6%	28.7%
Dec 2019	6.2%	51.7%	42.0%	11.9%	58.5%	29.5%
Dec 2020	7.8%	52.0%	40.2%	10.6%	58.1%	31.3%
Jul 2021	6.1%	48.3%	45.6%	8.9%	54.4%	36.7%

Table 12: Cumulative results by deanery (September 2010 to date)

Country	Deanery	Number of passes	Number of candidates	Pass Rate (%)
UK	East Midlands	53	86	61.6
	East of England	53	105	50.5
	East of Scotland	4	4	100.0
	East Scotland	9	10	90.0
	Kent, Surrey and Sussex	8	10	80.0
	London and KSS (Kent, Surrey and Sussex)	274	394	69.5
	Mersey	55	87	63.2
	North of Scotland	3	4	75.0
	North Scotland	9	12	75.0
	North Western	57	94	60.6
	Northern	55	79	69.6
	Northern Ireland	19	25	76.0
	Oxford	42	60	70.0
	Peninsula (South West)	22	38	57.9
	Severn	36	47	76.6
	Severn Institute	2	3	66.7
	South East of Scotland	7	10	70.0
	South East Scotland	14	22	63.6
	Wales	42	77	54.5
	Wessex	37	60	61.7
	West Midlands	74	120	61.7
West of Scotland	8	17	47.1	
West Scotland	24	41	58.5	
Yorkshire	71	128	55.5	
Overseas	Eire	1	4	25.0
	Europe and Overseas	38	61	62.3
<b>Total</b>	<b>Total</b>	<b>1,017</b>	<b>1,598</b>	<b>63.6</b>