



Examination Report

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

April 2024

Lucy Foard, Sian Williams, Kiran Sanghara

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1 Summary

The Part 1 Fellowship of the Royal College of Ophthalmologists (FRCOphth) examination took place on the 24th April 2024. A total of 269 candidates sat and completed the examination without issue, of which 87 (32.3%) fulfilled the criteria required to pass the examination overall.

Three 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 177 (from 180).

The multiple-choice question (MCQ) exam showed excellent reliability, with an alpha of $\alpha=0.89$.

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 - 24 | 27 | 41 | 35 | 17 | 17 | 26 | 14 | 177* |
| Jan - 24 | 28 | 44 | 35 | 15 | 16 | 30 | 11 | 179 |
| Oct-23 | 24 | 48 | 32 | 13 | 17 | 22 | 20 | 176* |
| Apr - 23 | 26 | 48 | 14 | 14 | 13 | 40 | 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 |

* = 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 |

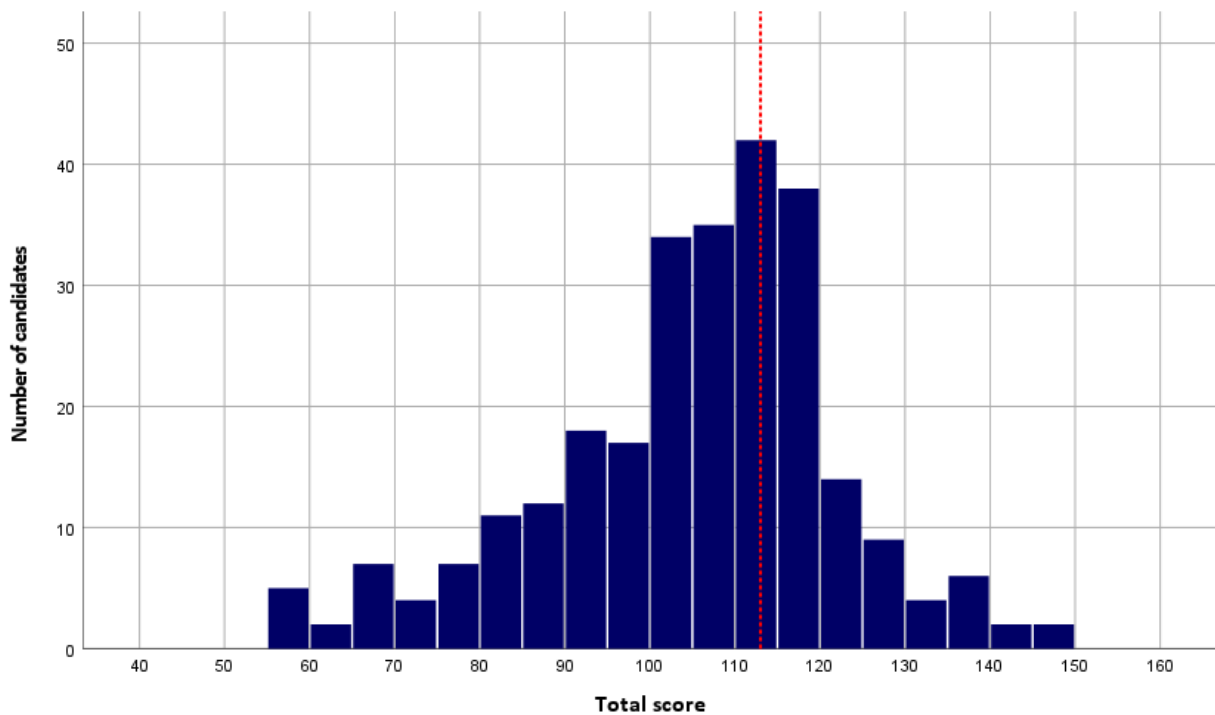
The MCQ paper was lengthened from 120 to 180 questions for the first time in Jan 2021, largely by increasing the number of Investigations and Miscellaneous items, making the breakdown of the two categories' items more important than it has been historically.

2.1 Paper statistics

Table 2: MCQ paper summary statistics

| Statistic | Value | Percentage |
|---|-----------|---------------|
| Mean score | 104.4/177 | 59.0% |
| Median score | 107/177 | 60.5% |
| Standard deviation | 17.15 | 9.7% |
| Candidates | 269 | |
| Reliability: Cronbach's alpha | 0.890 | |
| Standard error of measurement (SEM) | 5.69 | 3.2% |
| Range of marks | 57 - 147 | 32.2% - 83.1% |
| Pass mark derived from standard setting | 113/177 | 63.8% |
| Pass rate | 87/269 | 32.3% |

Figure 1: Histogram showing distribution of total scores – MCQ



The vertical red 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

| | | | Discrimination (Point Biserial) | | | | | | Total | % |
|----------|-----------|--------|---------------------------------|------|---------|-------|--------|-------|-------|-------|
| | | | Negative | | Poor | | Good | | | |
| | | | <0 | | 0-0.249 | | ≥0.250 | | | |
| | | | Number | % | Number | % | Number | % | | |
| Facility | Difficult | <25% | 2 | 1.1% | 14 | 7.9% | 0 | 0% | 16 | 9.0% |
| | Moderate | 25–75% | 4 | 2.3% | 62 | 35.0% | 44 | 24.9% | 110 | 62.1% |
| | Easy | >75% | 0 | 0% | 7 | 4.0% | 44 | 24.9% | 51 | 28.8% |
| | Total | | 6 | 3.4% | 83 | 46.9% | 88 | 49.7% | 177 | 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 | 0 | 29 | 90 | 119 |
| Important | 1 | 19 | 23 | 43 |
| Supplementary | 2 | 6 | 7 | 15 |
| <i>Total</i> | 3 | 54 | 120 | 177 |

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 | 0 | 19 | 68 | 87 |
| Important | 1 | 10 | 13 | 24 |
| Supplementary | 1 | 2 | 2 | 5 |
| <i>Total</i> | 2 | 31 | 83 | |

Please note, due to rounding of individual categories to whole numbers, total numbers may be slightly different

The MCQ pass mark was 113/177 (63.8%).

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

| Year | Candidates | Mean score | Reliability | SEM | Standard setting | Pass mark | Discrimination (Biserial) | | | Facility | | | Number of questions | Pass number (rate - rounded) |
|---------------|------------|------------|-------------|-------------|------------------|--------------------|---------------------------|----------------|---------------|------------------|------------|-------------|---------------------|------------------------------|
| | | | (KR 20) | | | | Negative | Poor (0-0.249) | Good (>0.250) | Difficult (<25%) | Moderate | Easy (>75%) | | |
| Apr-24 | 269 | 104 | 0.89 | 5.69 | Ebel | 113 (63.8%) | 6 | 83 | 88 | 16 | 110 | 51 | 177 | 87 (32%) |
| Jan-24 | 178 | 101 | 0.89 | 5.83 | Ebel | 109 (60.9%) | 11 | 77 | 91 | 16 | 118 | 45 | 179 | 69 (39%) |
| Oct-23 | 300 | 100 | 0.89 | 5.87 | Ebel | 110 (62.5%) | 13 | 66 | 97 | 14 | 121 | 41 | 176 | 99 (33%) |
| 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%) |

* 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-24 | 269 | 87 | 32 | 63.8 | N/A |
| Jan-24 | 178 | 69 | 39 | 60.9 | N/A |
| 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 | 996 | 390 | 39 |
| April May | 1703 | 705 | 41 |
| October | 2023 | 932 | 46 |
| Total | 4722 | 2027 | 43 |

2.5 Breakdown of results

Table 10: Breakdown of results by deanery

| Location | Deanery | Failed | Passed | Total |
|--------------|------------------------------------|------------|-----------|------------|
| UK | East Midlands | 4 | 3 | 7 |
| | East of England | 4 | 3 | 7 |
| | East of Scotland | 1 | 0 | 1 |
| | Kent, Surrey and Sussex | 7 | 3 | 10 |
| | London | 13 | 11 | 24 |
| | Mersey | 2 | 1 | 3 |
| | North of Scotland | 1 | 0 | 1 |
| | North Western | 3 | 2 | 5 |
| | Northern | 5 | 4 | 9 |
| | Northern Ireland | 1 | 0 | 1 |
| | Oxford | 0 | 2 | 2 |
| | Peninsula | 0 | 3 | 3 |
| | Severn | 3 | 1 | 4 |
| | Southeast of Scotland | 1 | 0 | 1 |
| | South Yorkshire & South Humberside | 0 | 3 | 3 |
| | Wales | 5 | 3 | 8 |
| | Wessex | 2 | 1 | 3 |
| | West Midlands | 10 | 3 | 13 |
| | West of Scotland | 1 | 0 | 1 |
| | Yorkshire | 4 | 3 | 7 |
| Overseas | Eire | 4 | 0 | 4 |
| | Europe and Overseas | 12 | 5 | 17 |
| Other | Not applicable / Unknown | 99 | 36 | 135 |
| TOTAL | | 182 | 87 | 269 |

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

| Location | Deanery | Total candidates passed | Total candidates sitting | Pass rate % |
|----------|--------------------------|-------------------------|--------------------------|-------------|
| UK | East Midlands | 57 | 136 | 41.9 |
| | East of England | 80 | 174 | 46.0 |
| | East of Scotland | 23 | 35 | 65.7 |
| | Kent, Surrey, and Sussex | 64 | 126 | 50.8 |
| | London | 205 | 409 | 50.1 |
| | Mersey | 55 | 135 | 40.7 |
| | North of Scotland | 24 | 53 | 45.3 |
| | Northwestern | 57 | 114 | 50.0 |
| | Northern | 55 | 107 | 51.4 |
| | Northern Ireland | 38 | 90 | 42.2 |
| | Oxford | 37 | 64 | 57.8 |
| | Peninsula (Southwest) | 39 | 86 | 45.3 |
| | Severn | 24 | 48 | 50.0 |
| | Southeast of Scotland | 26 | 44 | 59.1 |
| | South Yorks & Humberside | 5 | 7 | 71.4 |
| | Wales | 60 | 129 | 46.5 |
| | Wessex | 60 | 137 | 43.8 |
| | West Midlands | 108 | 239 | 45.2 |
| | West of Scotland | 66 | 136 | 48.5 |
| | Yorkshire | 79 | 152 | 52.0 |
| Overseas | Eire | 13 | 56 | 23.2 |
| | Europe and Overseas | 78 | 202 | 38.6 |
| Other | Not applicable / Unknown | 271 | 744 | 36.4 |
| | TOTAL | 1524 | 3423 | 44.5 |