Board of Assessors’ mark awarding algorithm for sittings in 2021

The board’s primary purpose is to protect patients and the public by ensuring that the standard of the registration assessment is maintained at the appropriate level: this will take precedence over all other considerations. The purpose of applying this mark awarding algorithm is to ensure that candidates who pass the assessment do so on merit.

The mark awarding process is multi-step and evidence-based.

The board does not know the identity of any candidate when awarding or whether they have been granted an adjustment. Some candidates will be sitting for the first time, others will be repeat sitters. Additionally, some candidates will have registered provisionally as pharmacists and will have worked as such after passing their pre-registration training. Provisional registration is an emergency measure introduced by the GPhC in order to stabilise and support the delivery of pharmacy services during the COVID-19 pandemic.

The registration assessment comprises two papers: Part 1 (calculations) and Part 2 (multiple choice).

In 2021 the majority of candidates will sit in a GB test centre managed by an external contractor, where papers will be delivered online. A small number of candidates will sit remotely and will be proctored online. Remote sitting will be managed by the same contractor.

Stage 1 - Post-assessment meeting 1

This first meeting takes place approximately two weeks after the registration assessment sitting. The primary focus of this meeting is a review of each individual question and its associated data.

Stage 1(a) – consideration of requests for a sitting to be nullified due to adverse circumstances

Requests for sittings to be nullified due to adverse circumstances are considered by the board for a given sitting before the board’s mark awarding meeting. A nullified sitting does not count as a sitting attempt. Requests are considered without knowing the candidates’ marks or the number of times they have sat the assessment.

Note: Candidates have to complete initial education and training requirements in eight years. The nullification of a sitting does not extend the eight-year limit.

The board makes decisions on each request for nullification, and the outcome is noted before moving on to subsequent stages.
**Stage 1(b) – consideration of individual question performance and paper reliability data**  
(see appendix 1 for post assessment review process)

The board considers the performance of individual questions, based on metrics provided by the marking contractor. In doing so the board also takes into account the reliability data for each item and for each paper as a whole. In addition, the board considers any issues raised about particular questions by candidates and other interested parties.

If there is valid reason and/or statistical evidence for doing so, the board may agree to:

- remove a question,
- accept more than one answer for a question
- remove question from IRT anchor set
- adjust the Angoff score for a question

**Stage 1(c) – post-assessment review by Standard Setting Panel (optional)**

If there is valid reason and/or evidence for doing so, the board may choose to refer back to the standard setting panel before agreeing to make an adjustment to a question’s Angoff score.

**Stage 1(d) – Review of sitting data provided by the marking contractor (report 1a).**

This includes:

- preliminary pass marks for Part 1 and Part 2
- preliminary percentage pass rates per paper and for the overall assessment
- Statistical performance data

**Stage 1(e) - Recalculation of results data based on decisions made at stages 1a-1d**

The marking contractor will make the necessary amendments to the results data to incorporate the decisions made at stages 1a, 1b, 1c, and 1d.

**Registration assessment regulations relevant to stage 1**

Note: If a candidate formally withdraws from a sitting (regulation 5.2) that sitting does not count as a sitting attempt. If a candidate fails to notify the GPhC of their decision to withdraw (regulation 5.4) the candidate will forfeit the sitting attempt through non-attendance. This is dealt with administratively by the GPhC and any candidate who applies to sit the assessment but does not sit, will not appear in the reports presented to the board at stage 1c and stage 2.

6.1 It is the sole responsibility of every candidate to ensure that they only sit the assessment if they are fit to do so. Being ‘fit to sit’ means that, a candidate knows of no reason why their performance would be adversely affected during the assessment. A candidate who is affected by illness or other adverse circumstance before the day of the assessment, but decides to sit the assessment, will be treated as being fit to sit by the board.

6.2 If, on or before the day of an assessment, a candidate knows of an illness or adverse circumstance that might affect their performance, they should not sit. An illness or adverse
circumstance known to a candidate on or before the day of an assessment cannot be used as grounds for nullification of the sitting attempt, or as grounds for an appeal or as evidence in an appeal.

6.3 A candidate who is taken ill or experiences other adverse circumstances during the assessment, must draw this to the attention of a member of staff in a test centre or an online proctor immediately, in order for that person to assist with the indisposition. A report of the circumstances will be prepared and forwarded to the GPhC. If the candidate wishes their circumstances to be considered by the board under the provision of 6.4, they must then submit a written request to the board, via the GPhC, for their illness or adverse circumstances to be considered under the provisions of 6.4 below.

6.4 Request for an assessment attempt to be nullified: A candidate who considers that their performance has been affected by illness or other circumstance during the assessment, may request in writing to the board that they be deemed not to have sat the assessment on this occasion, and that their assessment attempt be nullified.

6.5 In order for a request to be considered under 6.4 the request must be in the specified format, including appropriate supporting evidence as detailed in 6.3. The request must be received by the specified date after the assessment, to ensure that it can be considered by the board at its post-assessment meeting.

6.7 When considering a candidate's request for their assessment attempt to be nullified, the board will do so before undertaking the process of awarding results and without knowing the candidate's provisional marks.

6.8 The board will consider nullification requests without knowing the candidate's identity, the number of their assessment attempt, or whether or not they have been granted an adjustment.

6.9 If the board grants the candidate's request for nullification, the candidate will not be informed about any marks they might have obtained and they will be deemed not to have sat. The candidate may apply to re-sit a subsequent sitting of the assessment provided they meet the eligibility requirements and are able to meet the time limit to apply for registration as a pharmacist. For such a further sitting, the candidate will be required to pay a new fee.

6.10 If a candidate's request for their assessment attempt to be nullified is not granted, the board will go on to consider their marks with those of other candidates within the process of awarding results. The board will not pay further regard to the candidate's reported illness or other adverse circumstance.

Stage 2 – Post-assessment meeting 2

At this meeting the board is provided with report 2 by the marking contractor. This report includes:

- raw cut scores and pass marks for Part 1 and Part 2
- provisional percentage pass rates per paper and for the overall assessment
- mean % scores and provisional pass rate by sitting attempt
- individual candidate performance

The data presented in report 2 reflects decisions made by the board at Stage 1.
Stage 2(a) – Consideration of the quality of the sitting and papers

The board will consider available evidence:

(i) a report of the operational aspects of the sitting, provided by the GPhC operations team and the assessment contractor;

(ii) a report of the statistical performance of the papers, provided by the marking contractor; and

(iii) other relevant evidence.

Stage 2(b) – agreeing pass marks

Having taken information provided at stage 2a into account, the board will consider whether there is reason to modify the pass mark for one or both assessment papers in order to be satisfied that the passing score is at the required performance standard.

Stage 2(c) - Recalculation of results data based on decisions made at stage 2(b)

The marking contractor makes the necessary amendments to the results data to incorporate any agreed changes to the pass mark for part 1 and/or part 2 papers. The assessment pass rate is recalculated and noted for the record.

Stage 3 – Post-assessment meeting 3

Stage 3(a) - awarding passes and fails to candidates

Relevant assessment regulation: 1.18 To pass the assessment, a candidate must achieve the pass mark or greater for Part 1 and Part 2 in the same sitting.

Candidates who have met or exceeded the pass threshold for both papers (as agreed at stage 2b) will be awarded a pass.

Candidates who have not met the threshold for both papers (as agreed at stage 2b) will be awarded a fail.

The pass requirement is:

- achieving the pass mark or greater in part 1; and
- achieving the pass mark or greater in part 2.

Note that compensation between papers is not permitted. The pass mark or greater must be achieved in both parts of the same sitting.

Stage 3(b) – confirming the marks

Relevant assessment regulation: 1.1 The assessment is set and moderated by the GPhC’s board of assessors (‘the board’). The board’s primary purpose is to protect patients and the public by ensuring the standard of the assessment is maintained. This will take precedence over all other considerations.

The board will conclude the mark awarding process by agreeing that the marks are correct and true.

The chair will confirm this for the record.
Stage 3(c) – recording of final pass marks for part 1 and 2 for communication purposes

Relevant assessment regulation: 7.1 Candidates will be notified of their individual results by the GPhC. Candidates will be provided with the mark required for each paper in order to pass the assessment, along with the mark they achieved for each paper, and their overall pass or fail result.

For clarity of reporting to candidates, the mark required to pass each paper will be reported to candidates to the whole mark equivalent. At this stage, the mark needed to pass part 1 and part 2 will be recorded in this format.

For purposes of the board, the corresponding percentage pass mark for each paper will be recorded to two decimal places.

The chair will confirm these for the record.

Appendix 1: Analysing performance data for the GPhC’s registration assessment

Reporting data set 1

a. For each paper present:
   - Standard error of measurement (SEM)
   - Standard deviation
   - Cronbach’s \( \alpha \)
   - Mark boundaries to classify pass fail and borderline
   - Raw cut score
   - Provisional passing criteria (as both a mark and a percentage) using IRT and modified Angoff
   - Rounded pass mark required to achieve the pass percentage

b. For each item (question) present:
   - Correct answer
   - Angoff score (provided in the spreadsheets not in reporting data set PowerPoint report)
   - facility (\( p \) value) for all candidates
   - facility (\( p \) value) for ‘barely passing’ candidate performance (provided in the spreadsheets not in reporting data set PowerPoint report)
   - item total correlation
   - Flagging of the above it less than 0.1
   - Cronbach’s \( \alpha \) if item deleted
   - Performance per quintile, presented as a chart
   - Correct answer plus full answer profile as a percentage and number for all answer variations given by over 1% of candidates (Part 1 calculations paper)
• Percentage spread of all answer choices as a table and chart, with correct answer clearly identified (part 2 multiple choice paper)
• IRT difficulty
• IRT discrimination
• Information at the pass mark (provided in the spreadsheets not in reporting data set PowerPoint report)
• DIF analysis for anchor items (historic versus current diet performance)
• DIF analysis for items common to multiple sittings in the current session (i.e. day 1 versus day 2 performance)
c. For each paper present:
  • Raw pass rate as a percentage and as a number using both IRT and modified Angoff
  • Bar chart showing mark distribution

Reporting data set 2

Results data above to be updated with decisions made at the post assessment stage, which may include:
• Removal of candidate data if a nullification of sitting attempt was granted
• Removal of questions
• Accepting more than one correct answer to a question
• Removal of an item as an anchor if its IRT parameters have “drifted” from historic values
• Modification of Angoff scores
• Modification of SEM
• Modification of cut score
• Modification of IRT ability “passing standard”
a. Present for each sitting:
  • Updated section 1a and 1c from report 1. (Data in 1b above will be updated in spreadsheets.)
  • For each paper - pass rate as a percentage and as a number
  • Overall – pass and fail rate as a percentage and as a number
  • Breakdown by sitting attempt of pass and fail rate as a percentage and as a number
  • Breakdown of pass/fail performance for all candidates and for 1st attempt candidates by:
    - education route (MPharm/MPharm with preparatory year/5-yr MPharm integrated pre-reg/OSPAP)
    - sex
    - age range
- ethnicity
- country (this will include candidates in NI from the November sittings onwards)
- sector of pre-registration training
- school of pharmacy
- sitting type (centre/remote)
- provisional registrant

Note that data in this section are for information only and will not influence the board’s decision about candidates.

b. Present results date for each candidate (identified by candidate number):
   - mark and percentage score for each paper and overall
   - whether their mark for each paper falls within the pass or fail criteria
   - whether they have passed or failed the sitting overall (a candidate must meet the pass mark for both papers to achieve an overall pass)

This must be available to share with the board at the mark awarding meeting. These results must also be provided in Excel format. A template with the required layout will be provided.

Where appropriate, a short commentary should be provided within the reports to explain the purpose of each test and an indication of the relevance of the results.