

Moderators' Report/ Principal Moderator Feedback

June 2011

GCE Physics (6PH03) Paper 1A & 1B

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There are two routes assessment for this module: internal moderation (1A) and external marking (1B). The same assessment criteria are used for each route, and unless otherwise stated the comments below apply to both routes. This was the third year of the specification and it is still clear that some centres are not accessing the Edexcel website where the latest forms and guidance are available.

Many candidates showed that they had gained useful skills from their course and produced some excellent work.

The assessment criteria in the specification should be made available to all candidates: they should be read in conjunction with this report. For the 1A route, annotation using the marking codes was generally good and the moderators were pleased to receive helpful notes. Details of briefings given to candidates (for 1A and 1B) and details of internal standardisation (for 1A) must be provided. To allow candidates access to all criteria briefings should only provide essential information, not detailed instructions for experimental procedures. Supervisors' values for constants determined in experiments should also be included.

The report on the visit or case study

This section is the only part where word processing is allowed: not all centres had realised this.

Whether a case study or a visit is carried out, all references must be acknowledged. Although referencing was generally quite good, many thought that three different web pages rather than three different types of sources would suffice if using a case study. Some candidates copied and pasted long extracts from sources without any of their own commentary or discussion: this makes the award of criteria such as using specialist terminology correctly (S5) difficult. Without the inclusion of the briefing notes given to candidates it is not possible for examiners or moderators to know whether or not to award S6.

Despite their placement at the end of the marking grid, the report marks are meant specifically for the summary. The mark for R2 should not be given when subheadings are used only in sections other than the summary

Experimental Skills

The best experiments are simple ones, with a clear unambiguous aim, which allow candidates a choice of method and which point to a clear numerical conclusion via a graph. For example, the identification of a material by the determination of its resistivity is a better title for an experiment than an investigation of the relation of resistance to length. The latter aim generally restricts the award of some analysis criteria, in particular A6 and A7.

Planning

The planning should be marked separately from the implementation and analysis: it should be written before the experiment is carried out. Once a candidate has begun implementation of the experiment, no further planning marks should be given for planning points made amongst the subsequent work. The plan should include all relevant equations, details of planned

calculations and justify assertions about choice of measuring instruments and repeat readings.

When commenting on whether repeat readings will be necessary (P9), candidates should support their comment with some reasoning related to the context of the experiment. "I will draw a graph" without further qualification is not sufficient for the award of P11: full details of all data treatment are expected for this criterion.

In **Implementation and Measurement** the majority of candidates scored highly.

For M1 students are expected to give consistent and realistic numbers of significant figures in their measured values. Some candidates explained in planning that they would make measurements with a metre rule because it had a precision of ± 0.5 mm and then recorded results only to 0.1 m: they could not then be awarded M1. They are also expected to give repeated values for measurements such as the diameter of a wire. Most candidates used units correctly, but not always in the conclusion. At least six sets of measurements are expected.

Analysis

A surprising number of candidates still find it difficult to draw a line of best fit, forcing it through favoured points rather than drawing it to represent the overall trend. When describing the trend (A5) candidates should use precise scientific language: general comments such as a 'positive correlation' do not merit the award of this criterion. Some centres teach uncertainties very well; however, in other centres few examples of percentage uncertainty in even one quantity were seen. Conclusions (A11) did not always match the findings or the aim. Award of the mark was sometimes triggered by the heading "conclusion".

Administrative matters

There are exemplar and guidance materials, and relevant forms on the Edexcel websites but it was clear that not all centres had accessed these. Fewer centres entered candidates for the incorrect route this year: again details are on the website. Centres are reminded to use the most up-to-date paperwork, which includes record sheets to be signed by the candidate and teacher: this is a QCA Code of Practice requirement.

Moderators and examiners were very grateful to those centres that ensured that work for each candidate was written on one side of the page with each page numbered and named, clearly separated into three parts, and held together by a long treasury tag. Centres are asked not to use plastic envelopes or folders for candidates' work. For the 1A submission route, work must be annotated, preferably with Edexcel codes near where marks are awarded, and incorrect physics marked.

The attention of all centres is drawn to the Ask the Expert and Coursework Consultancy services, both of which are free: details are on the Edexcel website.

Grade boundaries

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