General Certificate of Education
Advanced Subsidiary Examination
June 2010

Physics PHY3T/P10/TN

Unit 3 Investigative and Practical Skills in AS Physics

Investigative Skills Assignment (ISA) P

Instructions to Supervisors

Confidential

- These instructions are provided to enable centres to make appropriate arrangements for the Unit 3 ISA P test.
- For further details of the administration of the ISA and for information about these instructions, please see the document *Guidance Instructions for the Administration of Investigative Skills Assignment (ISA): GCE Physics*

ISA (P) Refraction

Centre instructions for the investigation

In this ISA, candidates will be expected to measure the angles of incidence and refraction for a rectangular glass or Perspex block, using a white lamp with a colour filter (or a monochromatic source). They need to plot an appropriate graph from their results.

Information for centres

Candidates should be told approximately one week before undertaking Stage 1 of the ISA that the investigation will be about refraction through a glass or Perspex block, the laws of refraction and the use of lasers in optical experiments.

Candidates will be expected to use a calculator in 'degree mode' in both Stage 1 and the written test.

Stage 2 of the ISA (the written tests: Sections A and B) should be given as soon as possible after the practical investigation.

Apparatus

Centres should ensure that the apparatus provided can be used safely. Each candidate will need:

(a) rectangular Perspex or glass block of suitable size (e.g. 10 cm × 4 cm × 1 cm)
(b) 12 V lamp (or other compact light source) preferably in a 'ray box'
(c) suitable power supply for lamp
(d) colour filter (red or green)
(e) narrow slit to provide narrow beam of light
(f) A4 size white paper (2 sheets per candidate)
(g) drawing board or similar surface
(h) protractor 1° precision minimum
(i) sharp pencils and a 30 cm ruler
(j) partial black-out of laboratory is helpful

Centres who have concerns about special arrangements for colour-blind or partially-sighted students should contact the AQA Centre and Candidate Support division.