



General Certificate of Education  
Advanced Level Examination  
June 2010

## Physics

## PHY6T/Q10/TN

Unit 6 Investigative and Practical Skills in A2 Physics

Investigative Skills Assignment (ISA) Q

## Instructions to Supervisors

### Confidential

- These instructions are provided to enable centres to make appropriate arrangements for the Unit 6 ISA Q 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*

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## ISA (Q) Absorption and Attenuation of Radiation

### Centre instructions for the investigation

In this ISA, candidates will be investigating the translucency of a number of layers of tracing paper using an LDR circuit and a bench lamp.

### Information for centres

Candidates should be told approximately one week before undertaking Stage 1 of the ISA that they will be measuring the resistance of an LDR using an ammeter and a voltmeter, under light filtered by layers of tracing paper.

The ISA test may also involve the following topics:

- the nature of nuclear radiations and their applications
- background radiation
- the variation of radiation intensity with distance.

Stage 2 of the ISA (the written tests: Sections A and B) should take place 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) an LDR, some connecting leads and a switch
- (b) a battery or power supply and appropriate ammeters and voltmeters to measure the resistance of the LDR under different light conditions
- (c) a bench lamp or other bright source of light to illuminate the LDR
- (d) a small sheet of tracing paper (approximately A5) and some scissors

The tracing paper should be thin enough so that there is a detectable difference between readings with four and five layers of the paper over the LDR.

Candidates should be told where the lamp needs to be placed relative to the LDR and that **the distance between the lamp and LDR should not be changed during the experiment.**