



General Certificate of Education  
Advanced Level Examination  
June 2012

## Physics

## PHY6T/P12/TN

Unit 6 Investigative and Practical Skills in A Level Physics

Investigative Skills Assignment (ISA) P

## Instructions to Supervisors

### Confidential

- These instructions are provided to enable centres to make appropriate arrangements for the Unit 6 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) Cooling Experiments

### Centre Instructions for the Investigation

In this ISA, candidates will be expected to measure the volume of a pile of coins, to estimate the specific heat capacity of the metal used to make the coins and to plot a cooling curve for a cup containing freshly boiled water.

### Information for centres

Candidates should be told approximately one week before undertaking Stage 1 of the ISA that the investigation will involve calculating the volume of a cylinder, measuring the specific heat capacity of a metal and plotting a cooling curve for a cup of hot water.

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) two disposable drinking cups
- (b) ten 2p coins
- (c) two thermometers (0 to 100°C), which can be used for stirring
- (d) stopclock or stopwatch
- (e) 100 ml measuring cylinder
- (f) 250 ml beaker to collect the freshly boiled water
- (g) 300 mm ruler (preferably transparent) capable of reading to  $\pm 1$  mm
- (h) pen or marker suitable for drawing a line on the inside of the cups
- (i) access to a supply of cold and freshly boiled water
- (j) supply of paper towels to mop up spillages.