



Rewarding Learning

**ADVANCED SUBSIDIARY (AS)
General Certificate of Education**

Physics

Assessment Unit AS 3A

Practical Techniques and Data Analysis

[SPH31]

Assessment

APPARATUS AND MATERIALS LIST

PHYSICS UNIT 3 (AS 3A)
APPARATUS AND MATERIALS REQUIRED FOR PRACTICAL ASSESSMENT

CONFIDENTIAL

The apparatus in the following list will allow for one experiment to be set up for the practical test which makes up questions 1–4.

In other words, each set of apparatus (as listed on pages 3 and 4) will accommodate four candidates when doing the circus of experiments.

Question 1

- retort stand, clamp and boss
- large rubber bung
- tuning forks, 320 Hz and 456 Hz, clearly labelled.
- resonance tube (plastic pipe cut to 30 cm in length and not wider than the measuring cylinder)
- measuring cylinder or similar (approximately 30 cm high to accommodate the plastic pipe)
- half metre rule

Question 2

- constantan wire 32 swg
- tape
- half metre rule
- 7 × connecting lead
- digital voltmeter (0–20 V) measuring to 0.01 V
- digital ammeter (0–10 A) measuring to 0.01 A
- 2 × 1.5 V cell in component holder
- push to close switch
- 2 × crocodile clip

Question 3

- retort stand, clamp and boss
- G clamp
- cork
- optical pin
- 2 × metre rule
- stopclock accurate to 0.01 s

Question 4

- sponge to place at end of runway
- 2 × metre rule
- stopclock accurate to 0.01 s
- squash ball
- G clamp
- 2 × retort stand, clamp and boss
- black tape
- top pan balance measuring in g, accurate to 0.1 g