



Rewarding Learning

ADVANCED
General Certificate of Education

Physics

Assessment Unit A2 3A

Practical Techniques and Data Analysis

[APH31]
Assessment

APPARATUS AND MATERIALS LIST

PHYSICS UNIT 3 (A2 3A)
APPARATUS AND MATERIALS REQUIRED FOR PRACTICAL ASSESSMENT

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This document gives preliminary information on the apparatus and materials required for the A2 Practical Assessment.

The A2 3 Practical Techniques Assessment is a test of practical skills consisting of **two** experimental tests (40 marks). The duration of the assessment is 1 hour.

The apparatus in the following list will allow for **one experiment** to be set up for the practical test which makes up questions 1–2. In other words, each set of apparatus (as listed on **page 3**) will accommodate two candidates when doing the circus of experiments.

Question 1

Component

- Retort stand
- 2 × Clamp and boss
- 12V, 36W filament bulb and holder
- Power supply
- $f = 100\text{ mm}$ converging lens
- Cardboard approx $10\text{ cm} \times 10\text{ cm}$
- 8 section gratnell tray insert (1 tray (8 sections) will accommodate 4 candidates)
Base dimensions of each section $11.6\text{ cm} \times 7.0\text{ cm}$
Timstar (TR16198) or equivalent
- 30 cm ruler
- Dividers (as in a maths set) or compasses
- Measuring cylinder – 50 cm^3
- 250 cm^3 beaker
- White oil based paint
- Paper towels
- 2 connecting leads

Question 2

Component

- 2 × Retort stand (1 retort stand 1m tall if possible)
- 2 × Clamp and boss
- 2 × G clamp
- Metre rule of mass $>80\text{ g}$ and $\leq 90\text{ g}$
- Half metre rule
- Protractor that measures to nearest 1°
- Pulley
- 50 g mass hanger
- 4 × 20 g mass
- 0.5 metre string
- Plumb line – made with fine thread and a pendulum bob
- Cork and nail/optical pin
- Sellotape or blu tac