



GCE A LEVEL

1420U50-1C



S24-1420U50-1C

For APRIL 2024

To be opened on receipt in JANUARY 2024

PHYSICS – A2 unit 5

Practical Examination

INSTRUCTIONS TO TEACHERS/EXAMS OFFICERS

Experimental Task

TESTS 1 and 2

CONFIDENTIAL

This document should be stored securely by the exams officer when not in use by the teacher/technician.

This document must not be stored within the science department when not in use by the teacher/technician.

Its contents should not be divulged except to those concerned with the preparation of the assessment.

A. General Instructions

1. The Experimental Task will consist of one session of 90 minutes duration. Two versions of the test will be set for use on dates specified by WJEC as follows:

Test 1 – Wednesday, 24 April 2024 (day 1)

Test 2 – Thursday, 25 April 2024 (day 2)

The vast majority of candidates will take Test 1. Test 2 should only be used in centres where it is **not practically possible** to accommodate all candidates on day 1. Centres requiring Test 2 (for use on day 2) should already have informed WJEC that this is the case. Please contact the subject support officer at WJEC (science@wjec.co.uk) as a matter of urgency if this has not been done. **No individual candidate may undertake both tests.**

Centres must schedule the test as early as is possible on the appropriate date and where more than one session is required on a single day, centres must ensure that candidates in later sessions have no opportunity to communicate with those who have already taken the test.

2. The tests should be invigilated by a person other than an A level Physics teacher.
3. An A level Physics teacher must be present in the examination room to deal with any technical difficulties that may arise, including matters of safety and the awarding of the teacher assessed marks.
4. Teachers should ensure that each candidate has adequate working space and that the candidates are set a reasonable distance apart. Each candidate requires uninterrupted access to the allocated apparatus – one set of apparatus per candidate.
5. Centres will receive sufficient copies of the examination papers for Test 1 (and Test 2 if applicable).
6. Teachers may open the “**Setting up Instructions**” document 1 week before Test 1 (i.e. Wednesday, 17 April 2024). **This is for the purpose of ensuring that the apparatus functions well enough for the candidates to complete the assessment fully. Teachers are encouraged to try out the task, WHILST PRESERVING THE CONFIDENTIALITY OF THE ASSESSMENT. This document should be stored securely by the exams officer when not in use by the teacher.** The full version of the examination paper will not be available until the day of the examination (i.e. Wednesday, 24 April 2024).
7. Following a recent specification amendment, candidates are to be given a list of the main topic areas to be assessed in the Experimental Task and in the Practical Analysis Task prior to the assessment. **In order to implement this, page 4 of this document should be copied and given to candidates as soon as possible after receipt of this document.** This information is also published on the WJEC GCE Physics web page.
8. Teachers need to ensure that the teacher assessed marks are recorded on the front of each candidate’s paper. Guidance on the awarding of these marks will be provided in the “Setting up Instructions” document.
9. The completed Experimental Tasks must be stored securely by the exams officer. Once the Practical Analysis Tasks are completed the exams officer should then pair up the Experimental Task and Practical Analysis Task for each candidate and place them in the order of the candidate register. These should then be sent to the examiner as soon as possible after the Practical Analysis Task has taken place. **Teachers should not be given access to the completed examination papers after the actual assessments have taken place.**
10. In most years, the examiner will require teachers’ results for the tests, to be recorded clearly on the ‘Information from Centres’ form (which will be in the “Setting up Instructions” document). On this occasion, no information is required.
11. The examination papers will be externally marked by a WJEC examiner. The same examiner will mark both the Experimental Tasks and Practical Analysis Tasks for a centre. The name and address of the examiner will be issued to centres by the end of April.
12. Monitoring visits will take place on a random sample of centres to ensure the practical examination is being administered correctly. Visiting monitors will require access to candidates’ “lab books” on the day(s) of the examination. **This includes the date of the Practical Analysis Task.**

B. Specific Instructions

Details of the apparatus and materials required for the tests follow.

If any difficulty is experienced in providing the apparatus, WJEC should be informed as soon as possible.

Contacts:

Subject Officer Helen Francis,	029 2240 4252, science@wjec.co.uk
Support Officer Eira Morgan,	029 2240 4252, science@wjec.co.uk

Apparatus Required

Test 1

The following apparatus is required for each candidate:

- 1 × metre ruler resolution ± 0.001 m
- 1 × 110 cm length of nichrome wire 34 s.w.g / approximately 0.22 mm diameter attached to ruler with approximately 5 cm over hanging using sticky tape at each end
- 1 × multimeter set to measure in ohms
- 2 × 4 mm leads long enough to connect to each end of the wire (if leads are too short more than one can be used)
- 2 × crocodile clips
- 1 × digital Vernier callipers/digital micrometer resolution ± 0.01 mm

The wire should be attached to the ruler by the technician before the experiment and the multimeter set to the correct setting to measure Ω . The crocodile clips should ensure a good connection with the wire. Candidates will be expected to complete the rest of the apparatus set-up.

Test 2

The apparatus is the same as that for Test 1 except that constantan wire 34 s.w.g / approximately 0.22 mm diameter should be used.

The numerical values of the various components are intended as a guide only and teachers may use their discretion if these sizes are not readily available.



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TOPIC AREAS FOR ASSESSMENT IN UNIT 5
IN SUMMER 2024

This page should be copied and given to candidates.

Knowledge, understanding and skills related to the following topic areas will be assessed:

- 1.5 Solids under stress
- 2.2 Resistance
- 2.5 Wave properties