

Examiner's report

Qualifications Framework

Stage 2: Weights and Measures

Practical Examiner's Report May 2024

General

This year 29 candidates sat the practical exam and I'm pleased to say that 86% passed. One candidate scored a very impressive 87% including achieving full marks for the average quantity question. The majority of candidates scored well bringing the average of all marks to 62%. Candidates had clearly put in a lot of practice.

As with last year's paper each candidate got a NAWI and Average Quantity question (either in the practical or scenario paper) with the remaining two questions taken from:

- Drained Weight
- Density – Line marked bottle
- Density – Pycnometer
- Measuring Container Bottle
- Catchweigher
- Automatic Gravimetric Filling Instrument
- Capacity Serving Measure
- Composite measure (tape)

The NAWI question (scenario and practical) was well answered with an average of 17 out of 25 which was a slight improvement on the 2023 average. Candidates had clearly taken time to practice. Testing a NAWI is a key skill of a weights and measures inspector, so it is no surprise that those who did not reach the 40% pass mark did not do well in the NAWI question.

In general, marks were lost for:

- Missing the error at zero therefore results were incomplete/incorrect
- Stopping when finding that the instrument fails. Marks are allocated for conducting the complete test so even though it has failed, candidates must carry on producing a full answer.
- Other tests were asked about so candidates should make sure they are familiar with 8.3 of EN45501:2015. If not asked to detail the tests, then a brief description is sufficient, but make sure to include the PLE
- No serial number added to the graph so it cannot be traced to the instrument.
- Serial numbers not being recorded. Traceability is essential to legal metrology.

The AGFI question continues to be the hardest for candidates. This year the average mark was 10 out of 25. A couple of candidates scored only 2 marks for this question, but it is possible to do well as was demonstrated by the candidate that achieved 20 marks (and several others that were in the high teens).

Only 2 candidates got the composite measure question, but both scored over 20 giving this question the highest average score.

The average quantity scenario included a question on target quantity setting which was only well answered by about 50% of candidates. Familiarity with the OPSS packaged goods guidance is essential reading for this question.

It was clear the majority of candidates had been on the practical and oral preparation course because most papers were well presented and methodically laid out. Producing tables of results aids clarity so I was pleased to see these being produced. In previous years results had not been produced in a way that meant they were easily understood.

For those that have passed, very well done. For those that are resitting, or those sitting the exam for the first time, it is worth reprinting the guidance issued previously (with a new bullet point added at the bottom):

- The exam consists of 4 questions: 2 practical questions where tests need to be made and results produced; and 2 scenario questions where no actual tests are to be performed. Instead, data is given, and results are to be calculated
- The 4 questions are to be answered in 2 hours, so 30 minutes per question
- Each question has 25 marks available
- The pass mark is 40%
- There is no choice of question, all must be attempted
- Candidates are allocated a table where equipment is set out for testing. The equipment should be identified in the answer book, a methodology stated, results obtained, and a conclusion reached
- After tackling the first two questions there is a short break where you will leave the room whilst the equipment is reset
- Stick to 30 minutes per question and move on once that time is up. You will probably gain more marks at the start of each question
- It seems like a tall order to complete a question in 30 minutes, but well-prepared candidates can, and do, manage this
- Practice, practice, and practice – your time will improve
- The scenario questions generally concern instruments covered by the Measuring Instruments Regulations 2016, but it's possible that equipment normally asked as a practical question could be asked instead. This recently happened for NAWI and Average Quantity
- The test forms and work instructions for Measuring Instruments and NAWI are to be found in the library of the Local Government Metrology Khub. Students should familiarise themselves with these
- All equipment in the exam will have a serial number or other form of ID. This includes any product under test which will have a best before or a batch number.
- Read the question carefully – there might be crucial information given that will affect the answer
- Give a clear and concise description of your methodology. Consider using bullet points where appropriate
- Diagrams are good
- Present results in a table where you can
- Show all working
- Make sure the correct units and SI symbols are used
- Make sure you are familiar with your calculator and can calculate the standard deviation and arithmetic mean quickly and accurately
- State a conclusion. Many candidates hedge their bets and say if the answer was x I would fail the instrument, but if the answer was y I would pass it. But that is not what is being asked.
- Attendance at the CTSI practical and oral preparation course is advised for preparation for the exams.
- Do not stop testing if results outside PLE are found. The full test should be completed.