

Examiner's report

CTSI Professional Competency Framework

Stage 2: Weights and Measures Practical Examiner's Report May 2023

General

This year saw the highest number of candidates taking the practical exam in a very long time. 43 sat the exam and over 80% passed so overall candidates were well prepared. The highest mark was 83% and the lowest was 24%

Each candidate got a NAWI and Average Quantity question (either in the practical or scenario paper) with the remaining two questions taken from:

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

The NAWI scenario question was the best answered with an average of 16 out of 25. However, many candidates failed to complete the table of results accurately which then had a knock-on effect on the rest of the questions as decisions are based on incorrect data. In many cases the instrument was failed when, in fact, it should have been passed. Knowing the conformity assessment tests and the paperwork and information necessary for a verification provided easy marks and was a common theme across the scenario questions.

The AGFI question attracted the fewest marks on average at 8.5 out of 25 with only a handful of candidates being able to fully complete the table of results. As with the NAWI question incorrect conclusions affected the rest of the paper. Several candidates guessed at whether the instrument passed or not but did not have any basis for coming to that conclusion.

The remaining questions were answered well and only CSM and AGFI had an average mark lower than the pass mark. Average quantity was well understood by the majority of candidates but some candidates wasted time by copying out from the question paper the results obtained by the assistant.

Future candidates may wish to consider the following guidance:

- 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-do 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.