The Chartered Society for Worker Health Protection

P403 Air Sampling and Fibre Counting (PCM)

Written Examination Guidance

It is important that candidates prepare thoroughly for all exams, as poor exam technique can result in lost Marks.

The following advice is applicable to all candidates and should be contained in the examination briefing:

- ✓ Read questions carefully before answering, and only then answer the question.
- ✓ Look for key words in the exam question, such as 'How…', 'Why…' etc.
- ✓ Look for indicators of how many answers to write (for example, 'List TWO options that…' tells you to write two answers only).
- ✓ This is a short-answer examination – candidates may write short sentences or list points in their answers.
- ✓ The number of Marks available for each answer is shown. This will help to assist in determining how much to write. For example, a question worth one or two Marks will require just one or two sentences or bullet points, however one worth 10 Marks will require a more comprehensive answer.
- ✓ Avoid getting bogged down unnecessarily in earlier questions. Give priority to questions that can be readily answered before tackling more challenging ones.
- ✓ Exam papers are structured to follow the sections of the syllabus, so candidates can easily find all questions relating to each sub-section.
- ✓ It is recommended that candidates take a couple of minutes to skim through the exam paper before they start answering the questions. They can then answer the questions they find easiest first, which will help them to accumulate Marks and hopefully give them confidence to tackle more challenging questions.
- ✓ Many questions are short answer questions based on diagrams, real-life scenarios, or photographs. They test whether the candidate can apply what they've learnt during the course and the practical sessions.

Sample Examination Questions

All questions are worth a variety of Marks, from 1 Mark up to 10 Marks. Questions are based on real-life scenarios and include the use of photographs, diagrams and tables. Each question is based on a specific syllabus item, examples of which are shown below:

Question 1: Which is the faintest band that must be visible on a Mark II HSE/NPL test slide before counting takes place? **(4 Marks)**

ANSWER:

Band 5 **(4 Marks)** or Band 5 with parts of Band 6 **(4 Marks)**

Question 2: You are conducting air monitoring next to asbestos works on a live construction site. Other than the asbestos works, what other activities may affect air monitoring results and how? **(4 Marks)**

ANSWER (Max 4 Marks):

Any other dust generating activities **(2 Marks)** may result in occluded slides **(2 Marks)**

Any fibre producing activities **(2 Marks)** e.g. work with MMMF products or ceramics or timber etc. may result in additional countable fibres **(2 Marks)**

Question 3: Using the following information, calculate the limit of quantification: **(4 Marks)**

- Sample volume = 140 litres
- Fields examined = 200

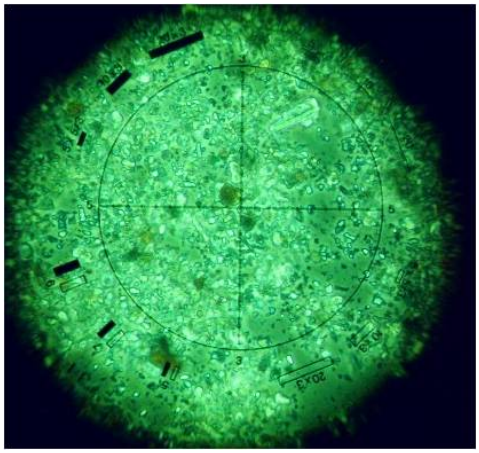
ANSWER:

0.03 f/ml **(4 Marks)**

0.03 **(2 Marks)**

Correct answer but more than 2 decimal places – **minus 1 Mark**

Question 4: Upon analysing a sample you see that the filter looks like the image below throughout. Can you analyse this sample? Explain your answer. **(4 Marks)**



ANSWER (Max 4 Marks):

No **(2 Marks)** the slide is occluded **(1 Mark**) it is likely that many fibres present will not be visible or countable **(1 Mark)** and therefore the results would be incorrect / not representative of airborne fibre concentrations **(1 Mark)**

Question 5: How can the competence of analysts undertaking the measurement of airborne fibre concentrations be determined? **(4 Marks)**

ANSWER (Max 4 Marks):

- Having suitable qualification – e.g. P403 **(1 Mark)**
- Having suitable experience **(1 Mark)**
- Regular auditing **(1 Mark)**
- Satisfactory performance within internal QC **(1 Mark)** and RICE schemes **(1 Mark)**