

Lab 7 - Integrated Air Sampling

Due Oct 4 at 7am	Points 10	Questions 10	Time Limit None
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Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	70 minutes	10 out of 10

! Correct answers are hidden.

Score for this quiz: **10** out of 10

Submitted Oct 3 at 10:08pm

This attempt took 70 minutes.

Question 1

1 / 1 pts

When collecting personal air samples, the inlet of the sampling device should be placed in the _____.

☐ Work Zone

☒ Breathing Zone

☐ Anywhere on the worker

☐ Anywhere in the work space

Question 2

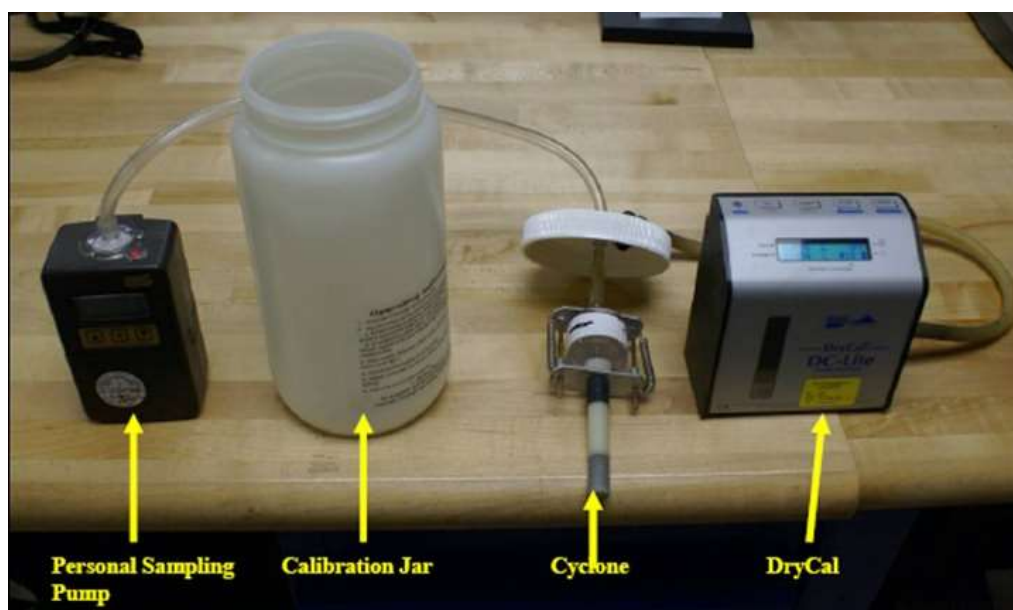
1 / 1 pts

Which of the following sampling/calibration trains is set up correctly?

A)



B)



☐ Neither A or B

☒ B

☐ A

☐ Both A and B

Question 3**1 / 1 pts**

When collecting a sample for acetone, if the acceptable range of flow rates is 0.01 to 0.2 L/min and the acceptable range of sample volumes is 0.5-3.0 liters, what flow rate in liters per minute should you set your pump to in order to collect the maximum volume during the 4-hour morning shift?

☒ 0.0125☐ 0.03☐ 0.2☐ 80☐ 0.01**Question 4****1 / 1 pts**

When preparing to sample for toluene-2,4-diisocyanate (2,4-TDI), you determine the method sensitivity (limit of detection) to be 0.1 ug per sample. If the TLV for 2,4-TDI is 0.0356 mg/m³, what is the minimum recommended air volume to collect in liters in order to achieve detection at 10% of the TLV?

☐ 0.0356☐ 280☐ 2.8☒ 28

Question 5**1 / 1 pts**

When preparing to collect personal air samples, where do you find the specifications for flow rate, duration, sampling media, etc.?

- ☐ The Handbook of Chemistry and Physics
- ☐ The OSHA Field Inspection Reference Manual
- ☐ The OSHA Technical Manual
- ☒ The NIOSH Method document

Question 6**1 / 1 pts**

Using the table of the sampling results below, calculate the 8-hour TWA for the sample period in ppm assuming that the un-sampled time has the same concentration as the highest recorded concentration.

Sample No.	Time (min)	Concentration
		(ppm)
1	105	123
2	91	154
3	101	118
4	99	149

- ☐ 118
- ☐ 154
- ☒ 139
- ☐ 135
- ☐ 112

Question 7**1 / 1 pts**

When collecting a sample for acetone, if the acceptable range of flow rates is 0.01 to 0.2 L/min and the acceptable range of sample volumes is 0.5-3.0 liters, what is the minimum acceptable sample duration in minutes?

☐ 15☐ 300☐ 50☒ 2.5**Question 8****1 / 1 pts**

When taking air samples, you collect the pre and post calibration measurements from the sampling pump as given in the table below. What do you record for the flow rate of the sample pump?

Measurement	Pre-Cal	Post Cal
1	1.735	1.668
2	1.741	1.653
3	1.743	1.657
4	1.733	1.649
5	1.738	1.629

☐ 1.629☒ 1.651☐ 1.695☐ 1.743

Question 9**1 / 1 pts**

Using the table of the sampling results below, calculate the TWA for the sample period in ppm.

Sample No.	Time (hrs)	Concentration
		(ppm)
1	1.0	22
2	2.5	15
3	1.0	29
4	3.0	28

☐ 29☐ 23.4☐ 15☐ 21.6☒ 23.0**Question 10****1 / 1 pts**

Using the Brief & Scala Formula provided below, calculate the adjustment factor for converting an 8-hr PEL into a 12-hr PEL and then determine the 12-hr PEL for Acetone that has an 8-hr PEL of 1,000 ppm.

$$Q = \frac{8}{h} \times \frac{(24 - h)}{16}$$

☐ 0.5

☐ 50

☐ 10

☐ 5

☒ 500

☐ 100

Quiz Score: **10** out of 10