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Unit 13 - Week 10

Assignment 10

The due date for submitting this assignment has passed. Due on 2020-04-08, 23:59 IST.
As per our records you have not submitted this assignment.

1) As the length of chromatography column is increased, its dead time or void time will: ***1 point***

- Decrease linearly
- Increase linearly
- Remain constant
- Decrease exponentially
- Increase exponentially

No, the answer is incorrect.
Score: 0
Accepted Answers:
Increase linearly

2) If the dead time for a column is 7.0 seconds, the best chromatographic separations are expected to happen between: ***1 point***

- 3.5-14.0 seconds
- 7.0-10.5 seconds
- 7.0-35.0 seconds
- 28.0-49.0 seconds
- 70.0-140.0 seconds

No, the answer is incorrect.
Score: 0
Accepted Answers:
7.0-35.0 seconds

3) Plate height is the length of the column that contains x% of analyte where x = ***1 point***

- 50.00
- 55.35
- 27.62
- 68.30
- 34.15

No, the answer is incorrect.
Score: 0
Accepted Answers:
34.15

4) Considering that an analyte A being eluted from a column of length L = 50 cm elutes in a gaussian profile with a variance of 4 cm^2, then 99% of the analyte A will be contained in y cm of column where y = ***1 point***

- 5
- 10
- 8
- 12
- 16

No, the answer is incorrect.
Score: 0
Accepted Answers:
10

5) For the above data, the width at the baseline in cm for A will be: ***1 point***

- 8
- 10
- 12
- 16
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:
8

6) If the retention time (t_R) for analyte A in Q4 is 125 seconds, then the width at baseline in seconds will be: ***1 point***

- 5
- 10
- 20
- 15
- 22

No, the answer is incorrect.
Score: 0
Accepted Answers:
20

7) Based on the information provided in Q4 and Q6, the HETP value for analyte A in this chromatography will be: ***1 point***

- 5.0 cm
- 1.0 cm

- 0.10 cm
- 0.08 cm
- 8.0 cm

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.08 cm

8) The number of theoretical plates present in the column for analyte A are: ***1 point***

- 525
- 625
- 750
- 450
- 700

No, the answer is incorrect.
Score: 0
Accepted Answers:
625

9) Which of the following is/are **not** true for plate theory? ***1 point***

- Plates within the column are real and hence can be counted
- Plate theory preceded rate theory
- Plate theory presumes that the adsorption isotherms for solutes on the stationary phase are linear
- Plate theory can be applied in gradient elutions
- Plate theory has a kinetic basis

No, the answer is incorrect.
Score: 0
Accepted Answers:
Plates within the column are real and hence can be counted
Plate theory can be applied in gradient elutions
Plate theory has a kinetic basis

10) The efficiency of chromatographic separations: ***1 point***

- Always decreases on increasing the rate of solvent flow
- Always increases on increasing the rate of solvent flow
- First increases and then decreases as the solvent flow rate is increased
- First decreases and then increases as the solvent flow rate is increased
- Is not influenced by the rate of solvent flow

No, the answer is incorrect.
Score: 0
Accepted Answers:
First increases and then decreases as the solvent flow rate is increased