

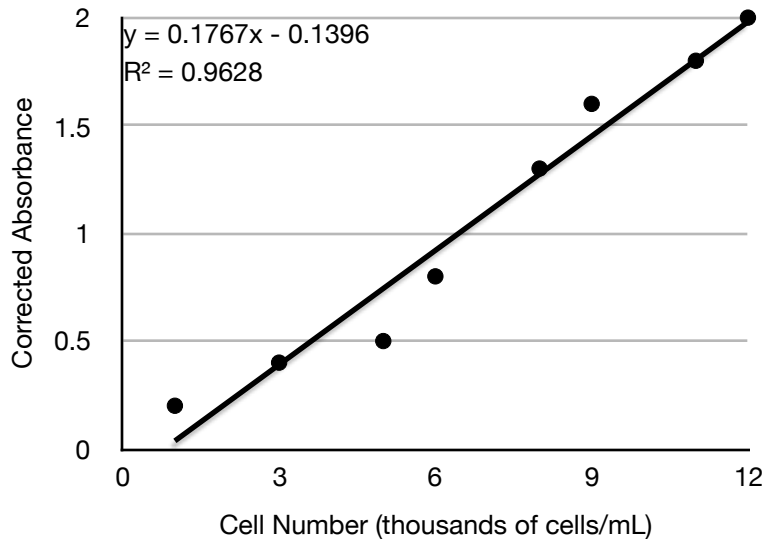
BE167L F18 Lab Practical Exam

Name: _____

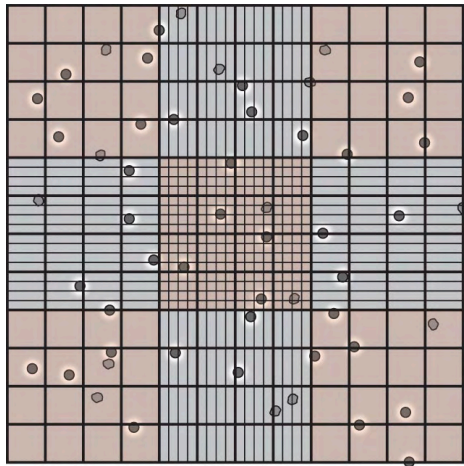
Written Portion (40 pts)

1. You seed HeLa cells into a tissue culture-treated flask, like you always do. However, you come in the next day and the media is bright orange. What are **two** possibilities for what might have gone wrong? (4 pts)

2. You are running an experiment to determine the effect of a new media on growth kinetics of your cells and decide to use an MTS assay to assess the number of cells. Using the standard curve give below, how many cells do you have in a sample if corrected absorbance from the MTS assay was 0.750? (show all calculations). (6 pts)



3. Before re-plating your cultured cells, you use a hemacytometer to count the cells and estimate their concentration in your suspension. Given the following phase image (10x objective), count the cells and calculate the cell concentration. Assume that your cell sample is undiluted. Show ALL your work!!! (6 pts)



4. You wish to make 200 mL of a 10 mM solution of a water-soluble reagent. Calculate how many grams of the reagent you will need to weigh out. Show your entire calculation, including all units. The molecular weight of reagent is 100 g/mol. (6 pts)

5. True or False (18 pts)

_____ Pipette tips used to transfer cells in a suspension should be disposed of as glass waste.

_____ The bicinchoninic acid assay (BCA) quantifies cell viability by measuring metabolic activity.

_____ When making PDMS stamps one should degas the base and curing agent before mixing them together.

_____ It is okay to wear flip-flops in lab when it is over 90°F outside.

_____ To obtain cell-alginate beads, you must pipette the cell-alginate solution into the calcium chloride solution (as opposed to pipetting calcium chloride into the alginate solution).

_____ If you pipette a very viscous solution like PDMS, you need to aspirate more quickly than normal to obtain an accurate volume.

_____ It is alright to write down observations on a paper you have around if you copy everything into your notebook afterwards.

_____ Liquid containing HeLa cells can be disposed of down the sink drain after incubation with 10% bleach for at least 10 min.

_____ Some mediums may have yellow phenol red, depending upon their composition.

Standard Curve Plate Layout

Well 1—1x	Well 7—0.5x
Well 2—1x	Well 8—0.5x
Well 3—1x	Well 9—0.5x
Well 4—0.25x	Well 10—Blank
Well 5—0.25x	Well 11—Blank
Well 6—0.25x	Well 12—Blank