

2.797/20.310/3.053/6.024 Spring 2015

MOLECULAR, CELLULAR, & TISSUE BIOMECHANICS

Problem Set #4

Distributed: 3/18/15

Due by 5pm in drop box: Wednesday 4/1/15

(Please turn problem 1 in Box1, problem 2 in Box2 and problem 3 in Box3)

Reading Assignment: Section 7.4 in the Textbook (pages 253 to top of page 259)

Problem 1: Do Problem 7.8 with the following problem re-statement:

The biomechanical properties of a cylindrical disk of tissue composed of collagen and aggrecan is tested in unconfined compression **in Equilibrium**. The charge-pH titration behavior of the tissue is shown in figure 7.31.

For the sketches of parts (a) to (c) below, the important result is the relative magnitude, not the exact magnitude.

Do part (a), (b) and (c).

Problem 2: Do Problem 7.9 part (a), (b) and (c)

Problem 3: Do Problem 7.9 part (d)

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