

Homework set #5
BENG 100
Spring 2008
Due: February 21, 2008

1. Write a 1-2 sentence description of a matrix drug delivery system and a reservoir drug delivery system. Use a diagram, if that is helpful.
2. You are asked to design a delivery system that provides a constant rate of release of insulin. You want the system to release 1 mg of insulin per day. Will you use a matrix or a reservoir system? Make a list of the advantages and disadvantages of each design for this particular application.
3. You are asked to design a delivery system for local treatment of breast cancer; the system will be implanted at the site of the solid tumor and slowly release chemotherapy to the local tissue. Will you use a degradable or a non-degradable polymer? Will you use a matrix system or microspheres? Make a list of the advantages and disadvantages of each for this particular application.
4. Propose a topic for your research paper (which will be due near the end of the semester). Provide at least one scientific reference for the topic.