GS/ECON 5010 Assignment 4 F2008

due : Friday November 21 8:30 am

Do all 5 questions. Each counts 20%.

1. What does the contract curve look like for a 2–person, 2–good exchange economy, with a total endowment of 60 units of good 1 and 29 units of good 2, if the preferences of the two people could be represented by the utility functions

$$u^1(x_1^1, x_2^1) = \ln x_1^1 + \ln x_2^1$$

$$u^2(x_1^2, x_2^2) = \ln x_1^2 + x_2^2$$

where x_j^i is person i's consumption of good j?

2. What are all the allocations in the core of a 3–person, 2–good economy, in which each person's preferences can be represented by the utility function

$$u^i(x_1^i, x_2^i) = 100 - \frac{1}{x_1^i} - \frac{1}{x_2^i}$$

where x_j^i is person i's consumption of good j, and where the endowments e^i of the three people are $e^1 = (2, 0)$, $e^2 = (0, 2)$, $e^3 = (0, 2)$?

3. What would the competitive equilibrium be in the economy described in question #1 above, if person 1's endowment of goods 1 and 2 was $\mathbf{e}^1 = (40, 18)$ and person 2's endowment was $\mathbf{e}^2 = (20, 11)$?

4. What is the competitive equilibrum to the economy described in question #2?

5. Find all the Nash equilibria in the following strategic–form two–person game.

	a	b	c	d	e	f
A	$(3, 0)$	$(12, 5)$	$(7, 2)$	$(4, 19)$	$(2, 16)$	$(3, 14)$
B	$(2, 0)$	$(1, 20)$	$(8, 0)$	$(2, 2)$	$(4, 8)$	$(1, 18)$
C	$(6, 12)$	$(0, 4)$	$(4, 5)$	$(6, 6)$	$(8, 6)$	$(5, 7)$
D	$(4, 18)$	$(3, 5)$	$(0, 8)$	$(8, 6)$	$(5, 12)$	$(4, 20)$