UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4415 – International Trade**

Date of exam: Friday, December 7, 2012 **Grades are given: January 4, 2013**

Time for exam: 2:30 p.m. – 5:30 p.m.

The problem set covers 4 pages (incl. cover sheet)

Resources allowed:

- No resources allowed

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

Problem 1: (15 points)

Do you agree with the following statement? Why/why not? Provide brief answers. (Note: you do not need to dsicuss the first sentence of each statement which merely provides the background; focus on the second sentence.)

a) "The government has decided to raise tariffs on selected agricultural products. This initiative serves as to protect our national interest."

b) "Our terms of trade have deteriorated markedly over the last years. I believe that because of this phenomenon, we no longer gain from trading with the rest of the world."

c) "We have to decide whether to open up trade with Fantasy land, our small neighbouring country. After careful consideration, I have decided that we will not gain from this kind of trade because the international prices that would prevail under trade with this country are equal to our no-trade prices; we have thus nothing to gain from liberalizing trade."

Problem 2: (25 points)

a) State the Stolper-Samuelson theorem.

b) Explain the Stolper-Samuelson theorem using a graphical approach.

Problem 3: (20 points)

A government is considering opening the country to free immigration. Foreign labor is equally productive to home labor. Assume that full employment is always assured by competitive labor markets.

a) Will a free immigration policy benefit or harm home labor relative to the equilibrium with free trade? Why?

b) Will migration affect the industrial structure in the receiving country? If so, in what way?

Problem 4: (40 points)

In the monopolistic competition model, demand for any product j can be derived from maximizing consumers' utility function. For your assistance the expression for demand derived in such a model (leaving out the definition of notation) may take the following form :

$$q_j = \frac{p_j^{-\sigma}}{P^{1-\sigma}} Y$$

Each firm has monopoly power over a single variety j. Assume that in order to operate, a firm must pay a fixed cost f and a variable cost bx_j, and that we can write profits as

$$\pi_j = p_j x_j - w(bx_j + f)$$

a) What determines the demand for each product j? Explain.

b) What is the elasticity of demand as perceived by the producer?

c) Derive each firm's profit maximizing price.

d) There is free entry in the monopolistical competitive sector. Derive equilibrium quantity for each firm.

e) Let us assume that there are two economies which may potentially be active in two sectors; agriculture, which is characterized by constant returns to scale and manufacturing, which is charaterized by monopolistic competition. Workers have sector specific skills, and do not move between sectors. Each economy is endowed with $(1-\mu)L/2$ agricultural workers who are immobile. As for manufacturing workers they are mobile across the two economies. The world endowment of manufacturing workers is μL.

(i) Explain the forces at work encouraging manufacturing firms to cluster together.

(ii) Explain the forces at work encouraging manufacturing firms to spread out across the two economies.

(iii) Describe analytically the condition that must hold in order for agglomeration of all manufacturing in one location to be a stable equilibrium. Explain what factors determine whether this condition will hold or not.