This is the final (and the only) examination. It will take 60 minutes.

In order to pass successfully the exam, read the following instructions carefully:

- write legibly, unintelligible handwriting will not be corrected and will receive zero points
- make answers short and to the point – irrelevant materiel may be penalized
- the exam has 4 pages (including one extra page for notes), make sure you have all pages
- negative points are awarded for wrong answers (only) in part I
- if you have a question, you must ask it publicly and I will answer publicly
- any violation of academic honesty will be punished to the fullest extent possible

I. Multiple choice questions (circle the correct answer) – more than one answer can be correct, points are subtracted for incorrect answers (30 points total, -30 points minimum)

1. (6 points) The two-region geographical economics model predicts that manufacturing activity will spread over the two regions or agglomerate in one region depending on the size of several economic parameters:
   a. the (iceberg) transportation costs;
   b. the elasticity of substitution;
   c. the share of income spent of manufacturing;
   d. none of the above is correct.

2. (6 points) In a neoclassical framework 2x2x2, with two factor rewards \( r \) and \( w \) respectively, changes in the final goods prices
   a. are diminished in the factor rewards;
   b. are magnified in the factor rewards;
   c. cannot determine the direction of change in the factor prices;
   d. are mirrored in the factor rewards exactly in relative sense.

3. (6 points) After the fall of the USSR, conditions in Armenia deteriorated rapidly. About two million people left the country. It is the high-skilled (HS) people that are leaving. There are two factors of production only – HS and low-skilled (LS) labor. Production of M is using HS relatively intensively. Production of F is using LS relatively intensively.
   a. as a result of leaving HS people, the production of F rises.
   b. as a result of leaving HS people, the production of M rises.
   c. as a result of leaving HS people, the production of both M and F decline.
   d. none of the above is correct.

4. (6 points) In the core new trade theory (Krugman) model
   a. producers of a variety of M earn positive economic profit because of the monopolistic competition.
   b. producers of a variety of M earn zero economic profit because of the monopolistic competition.
   c. international exchange affects only consumption baskets of consumers but not their real incomes.
   d. none of the above is correct.
5. **(6 points)** The opening of international trade among former electricity monopolies within the European market
   a. led to relative decrease of price of electricity in the market.
   b. is an example of pro-competitive gains from trade caused by the Bertrand type of the competition among former domestic monopolies.
   c. led to welfare losses in the countries that only partially opened their markets compared with the former domestic monopoly institutional framework.
   d. former monopolies are the losers of the liberalization.

II. True, False or Uncertain (with exception of question 5)? Explain in space provided! (30 points total, 0 points minimum)

1. **(6 points)** Assume that a consumer has the CES utility function and consumes three goods: coffee, tea and milk. If $\rho = 1$ the consumer is indifferent to consuming three units of coffee and three units of a mix of the goods. Prove your answer by a numerical example!

2. **(6 points)** Number of man-hours needed to produce one unit of a good is given in the table.

<table>
<thead>
<tr>
<th></th>
<th>Indonesia</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloth</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td>Machines</td>
<td>100</td>
<td>5</td>
</tr>
</tbody>
</table>

After the opening of international trade only the USA will gain from trade. Prove your answer using the PPF graph!

3. **(6 points)** The income elasticity of demand for any variety in Dixit-Stiglitz model of demand is 1. Prove your answer!
Questions 4 and 5 use the same setting. Let’s analyze the integration of China in the world economy with the Hecksher-Ohlin model. Assume, there are only TWO countries = China and the West. China is relatively labor abundant. The West is relatively capital abundant. Only two goods are produced – clothing (relatively labor intensive) and computers (relatively capital intensive).

4. **(6 points)** The relative price of clothes in the West is higher compared with the relative price of clothes in China when both the West and China are in autarky. Explain intuitively!

5. **(6 points)** Explain what will happen to the prices of clothes and computers in the Western world when the West and China start trading.
III. Write a detailed answer (40 points total, 0 points minimum)

1) (40 points) This question regards the general structure of the geographical model.

   a) (8 points) How do consumers decide how much to spend on food and manufacturing goods? What is the share of income they will spend on food?

   b) (8 points) Does every consumer spend an equal share of income on food? Why?

   c) (8 points) How do consumers decide on their consumption level for a particular variety of manufactures? What is the share of their income they will spend on one variety?

   d) (8 points) Is the wage for farm workers necessarily equal between the two regions?

   e) (8 points) Is the wage for manufacturing workers equal between the two regions?