ECO 333: INTERNATIONAL TRADE & FINANCE
EXAM 1.

• Credit will not be given unless you show your work/calculations.
• Use at least two different colors in your graphs. Axis and curves in graphs should be labeled.
• All answers should be in the blue book. Start a new answer on a new page (a,b,c etc. should be on same page, if possible).

Total points: 61

1. (6 points). The following table shows the units of Toasters or Cars that can be produced in 1 hour in the U.S and Germany: (2 country – 2 goods world):

<table>
<thead>
<tr>
<th></th>
<th>Toasters (T)</th>
<th>Cars (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Germany</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>

Given that trade pattern is determined by comparative advantage, suppose the U.S offers to exchange goods at the following exchange rate: 5C for 10T. Explain whether Germany would accept or reject this offer. How many units would Germany gain or lose from this offer?

2. (16 pts). A small country produces 2 goods, Y and X, and consumers in this country like to consume both goods. In autarky, the relative price of the two goods, \( \frac{P_x}{P_y} \), is 3.

a) Show the gains from trade (using PPF and IC) for this country when \( \frac{P_x}{P_y} \)_world = 4 and the opportunity cost is increasing. Which good is being exported from this country? Why is that? (6 pts).

b) Indicate in your graph in (a) levels of production, consumption, exports and imports. (6 pts.)

c) If this country imports 20 units of X or Y, how many units of Y or X are exported? (4 pts.)

3. (6 points). Consider the small country in question 3 but now assume the opportunity cost is constant. If the relative autarky price, \( \frac{P_x}{P_y} \), is 3 and the relative world price is 4, show how the total gain from trade can be decomposed into (i) gains from exchange and (ii) gains from specialization. Explain your graph.

4. (17 points). The following table shows the maximum output of Beer or Chips that the U.S. and Mexico can produce under constant opportunity cost conditions.

<table>
<thead>
<tr>
<th></th>
<th>U.S.</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer</td>
<td>280</td>
<td>120</td>
</tr>
<tr>
<td>Chips</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

Consumers in the U.S. and Mexico like to consume some of both goods, thus, the indifference curves are convex.

a) If Mexico consumes (in absence of trade) 10 chips, how much Beer can be consumed? (3 pts.)

b) Suppose that the exchange rate between the U.S. and Mexico is 1 Chip for 4 Beers. Illustrate graphically (Beer being the "X" good) the trade equilibrium for the U.S. and Mexico (two separate graphs, please). In your graphs, indicate the production points and the new utility maximizing consumption points. (8 pts.).

c) Once the two countries trade with each other, how much Beer does the U.S. export or import if 140 Beers are consumed? How many chips can the U.S. consume? Explain your answers very carefully. (6 pts.)

5. (16 points). Consider the Hecksher-Ohlin theory (2 country - 2 goods model) where each country uses two factors in production, capital and labor, whose prices are \( P_K \) and \( P_L \), respectively. Assume good X is capital intensive and good Y is labor intensive.

a) Which country is labor abundant? Why? (2 pts).

b) If the two countries have identical preferences, show the trade equilibrium. In your graph, identify exports and imports for each country. (6 pts).

c) Explain why the capital abundant nation exports the capital intensive good (3 pts).

d) Carefully explain why the H-O theory predicts relative factor prices (\( \frac{P_L}{P_K} \)) will be the same in each country once they start trading with each other. (5 pts.).