I have neither given nor received unauthorized aid on this examination, nor have I concealed any similar misconduct by others.

Signature________________________________________________________

Part 1 (2 points each – circle your answer for multiple choice)

1. The ratio of imported intermediate inputs to total inputs has _____ over the last 20 years  
   a. stayed constant  
   b. doubled  
   c. tripled  
   d. fallen

   a. 10%  
   b. 25%  
   c. 50%  
   d. 70%

Please mark whether the stated activity can be considered offshoring and/or outsourcing.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Outsourcing?</th>
<th>Offshoring?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals use US trained radiologists in India during nighttime hours in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the US</td>
<td></td>
<td></td>
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<tr>
<td>McDonalds sets up and owns a call center in Colorado to handle US drive</td>
<td></td>
<td></td>
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<tr>
<td>through orders</td>
<td></td>
<td></td>
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<tr>
<td>GM uses offices in Europe and Korea to design a new car around the clock</td>
<td></td>
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</tbody>
</table>
Part 2: (5 points each)

1. Why might the US like the offshoring of jobs? Why might the US hate the offshoring of jobs?

2. Please list the four methods of foreign direct investment.

3. Firms that engage in FDI have certain characteristics. Which of these is different for firms that invest in China?

4. Why did Ireland enjoy large inflows of FDI?
Part 3 – 10 Points each

Consider the “Melitz”–type exporting/FDI model we discussed in class. A firm must decide whether to exit the market or operate, and if the latter, whether to be purely domestic, export to a foreign market, or produce directly in each market (foreign using FDI). The returns from exiting are zero. If the firm decides to operate in some manner, it must pay $F_0$ in overhead costs. If the firm also decides to export, it must pay $F_x$ in exporting fixed costs. Finally, if the firm invests in the foreign country, it must pay another overhead cost $F_0$ and a fixed organizational cost $\delta$.

The firm can earn $\Pi_d(\alpha)$ in the domestic market. If the firm sells in the foreign market, potential profits are $\Pi_f(\alpha)$. If the firm exports, the foreign government extracts a fraction $\tau$ of profits. The term $\alpha$ is firm level productivity, where each profit function is increasing in $\alpha$.

1. Please graphically detail how firms sort into the four outcomes.
2. Suppose that the foreign market reduces their tariffs. Please detail graphically the direct effects of this tariff cut. Please also discuss the effect of the tariff cut on the prevalence and average productivity of each group of firms.
Part 4 – 10 Points each

Consider the “Melitz”-type integration/outsourcing model we discussed in class. A firm must decide whether to exit the market or operate, and if the latter, whether to integrate or outsource the production of inputs. The returns from exiting are zero. If the firm decides to integrate the production of inputs, it must pay $F_I$ in fixed costs, earning $\Pi(\alpha)$ in the market. If the firm decides to outsource, it must pay $F_O$ in fixed costs, and earns $(1-\delta)\Pi(\alpha)$ in the market. Assume that $\delta$ is between zero and one.

1. Suppose that $F_O > F_I$. Please graphically detail how firms sort into the three outcomes.
2. Suppose that $F_0 < F_i$. Please graphically detail how firms sort into the three outcomes.