Econ 101: Introductory Economics
Quiz II (Version a), 19 February 2016

Part A: Choose the best answer for the following 12 questions. Make only one choice for each question. (24 marks)

1. An increase in the number of firms wanting to provide accounting services will cause a _______ for accounting services.
   A). leftward shift in the supply curve
   B). rightward shift in the demand curve
   C). leftward shift in the demand curve
   D). rightward shift in the supply curve

2. The supply for some good or service will decrease if
   A). technology improves and the price of inputs falls.
   B). the prices of inputs fall.
   C). the prices of inputs increase.
   D). technology improves.

3. The table below displays hypothetical demand and supply schedules for the market for overnight parcel deliveries in Canada.

<table>
<thead>
<tr>
<th>Price ($)</th>
<th>Year 1 Demand (millions)</th>
<th>Year 2 Demand (millions)</th>
<th>Year 1 Supply (millions)</th>
<th>Year 2 Supply (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>80</td>
<td>95</td>
<td>140</td>
<td>125</td>
</tr>
<tr>
<td>26</td>
<td>100</td>
<td>(115)</td>
<td>135</td>
<td>120</td>
</tr>
<tr>
<td>18</td>
<td>(120)</td>
<td>135</td>
<td>(120)</td>
<td>105</td>
</tr>
<tr>
<td>10</td>
<td>130</td>
<td>145</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>

   Use the above table to answer questions 3 to 9.

3. The equilibrium price and quantity for overnight parcel delivery in Year 1 is _______ and _______ million parcels.
   A). $22; 130
   B). $30; 80
   C). $22; 115
   D). $14; 120

4. The equilibrium price and quantity for overnight parcel delivery in Year 2 is _______ and _______ million parcels.
   A). $18; 125
   B). $10; 100
   C). $22; 115
   D). $14; 120
5. Which of the following statements describes a likely event in the market for overnight parcel delivery?
From Year 1 to Year 2, D ↑  S ↓
A). the number of suppliers of overnight parcel delivery service increased.
B). the price of regular parcel delivery decreased.
C). there was an improvement in technology for tracking overnight parcels.
D). there was a rise in the price of jet fuel.

6. If the price of overnight parcel delivery in Year 2 is $10, how many parcels will actually be delivered?
A). 130
B). 100
C). 115
D). 145

7. Suppose the price of overnight parcel delivery in Year 1 is $22. Which of the following statements is correct? In Year 1
A). there is an excess supply of 30 million deliveries.
B). there is an excess demand of 30 million deliveries.
C). there is an excess supply of 15 million deliveries.
D). there is an excess demand of 15 million deliveries.

8. Which of the following events could explain the change in the market for overnight parcel delivery between Year 1 and Year 2?
A). the price of regular parcel delivery decreased
B). consumer preferences changed toward a desire for overnight delivery
C). the number of suppliers of overnight parcel delivery service increased
D). there was a decrease in the price of jet fuel

9. Which of the following statements best describes the change in equilibrium price and quantity in this market between Year 1 and Year 2?
A). The demand curve has shifted to the left, the supply curve has shifted to the right; as a result equilibrium price is lower and equilibrium quantity is higher.
B). The demand curve has shifted to the left, the supply curve has shifted to the left; as a result equilibrium price is higher and equilibrium quantity is lower.
C). The demand curve has shifted to the right, the supply curve has shifted to the left; as a result equilibrium price is higher and equilibrium quantity is lower.
D). The demand curve has shifted to the left, the supply curve has shifted to the right; as a result equilibrium price is higher and equilibrium quantity is lower.

10. Suppose that the quantity of a good demanded rises from 90 units to 110 units when the price falls from $1.20 to 80 cents per unit. The price elasticity of demand for this product is
A). 0.67
B). 1.5
C). 0.44
D). 0.36

11. Every month Olivier buys exactly 6 take-out pizzas even though the price may fluctuate significantly. Apparently, Olivier's price elasticity of demand for take-out pizza is
A). 0
B). 1
C). infinity
D). 6
If the total expenditure on perfume increases when the price of perfume falls, the price elasticity of demand is
A). elastic
B). inelastic
C). unit elastic
D). perfectly inelastic

\[ P \downarrow \Rightarrow TR \uparrow \Rightarrow \varepsilon_d > 1 \]

Part B: Answer all questions. **MUST** show all work on the space provided, otherwise, no mark will be given. (40 marks)

1. Market for sweet potatoes is: (18 marks)

<table>
<thead>
<tr>
<th>Price</th>
<th>Qd</th>
<th>Qs</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>37</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>31</td>
<td>23</td>
</tr>
<tr>
<td>7</td>
<td>25</td>
<td>33</td>
</tr>
<tr>
<td>9</td>
<td>19</td>
<td>43</td>
</tr>
</tbody>
</table>

(a). Find the demand equation \((Q_d=f(P))\). (4 marks)

\[
\text{slope} = \frac{37 - 31}{3 - 5} = -3
\]

\[ Q_d = \alpha - 3P \]

\[ 37 = \alpha - 3(3) \]

\[ \alpha = 46 \]

\[ \therefore Q_d = 46 - 3P \]
(b). Find the supply equation \( Q_s=f(P) \). (4 marks)

\[
\text{slope } p_e = \frac{\Delta Q_s}{\Delta P} = \frac{13-23}{3-5} = 5
\]

\[
Q_s = c + 5p
\]

\[
13 = c + 5(3)
\]

\[
c = -2
\]

\[
\therefore Q_s = -2 + 5p
\]

(c). Plot the demand curve and supply curve in detail in one diagram. (4 marks)
(a) Calculate equilibrium P and Q, and show them on the diagram in part (c). (6 marks)

\[ Q_d = Q_s \]
\[ 46 - 3P = -2 + 5P \]
\[ 48 = 8P \]
\[ P = 6 \]
\[ Q = 28 \]

2. Comparative Advantage: (22 marks)
A bakery shop has two specialties: donuts and muffins. Here are the capabilities of the four employees in the shop in one day: Amy can make 200 donuts or 100 muffins. Bella can make 150 donuts or 150 muffins. Cam can make 50 donuts or 100 muffins. Danny can make 150 donuts or 200 muffins.

(a) Calculate the opportunity cost of producing donuts for each person. (4 marks)

\[ A: \ 0.5 \ \ M/D \]
\[ B: \ 1 \]
\[ C: \ 2 \]
\[ D: \ 1.33 \]
(b). Graph the marginal opportunity cost curve for muffins. (6 marks)

(c). If the boss decides the group must make 250 muffins per day. Who should be assigned to produce muffins? What is the maximum number of donuts they can obtain per day? (6 marks)

For 250 muffins

- C works 1 day ⇒ 100
- D works \(\frac{3}{4}\) day ⇒ \(200 \times \left(\frac{3}{4}\right) = 150\) muffins

For donuts

- A + B work 1 day ⇒ 200 + 150 = 387.5 donuts
- D works \(\frac{1}{4}\) day ⇒ \(150 \times \left(\frac{1}{4}\right) = 37.5\) donuts
(d) If the boss decides the group must make 350 donuts per day. Who should be assigned to produce donuts? What is the maximum number of muffins they can obtain per day? (6 marks)

→ For 350 donuts

⇒ A and B work 1 day ⇒ 200 + 150 = 350 donuts.

→ For muffins

⇒ D and C work 1 day ⇒ 200 + 100 = 300 muffins