Version **B**

Concordia University
Department of Economics
ECON 201 Section C
Fall 2013
MIDTERM EXAMINATION

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Mark: _____/100 marks **Time Limit: 60 minutes**

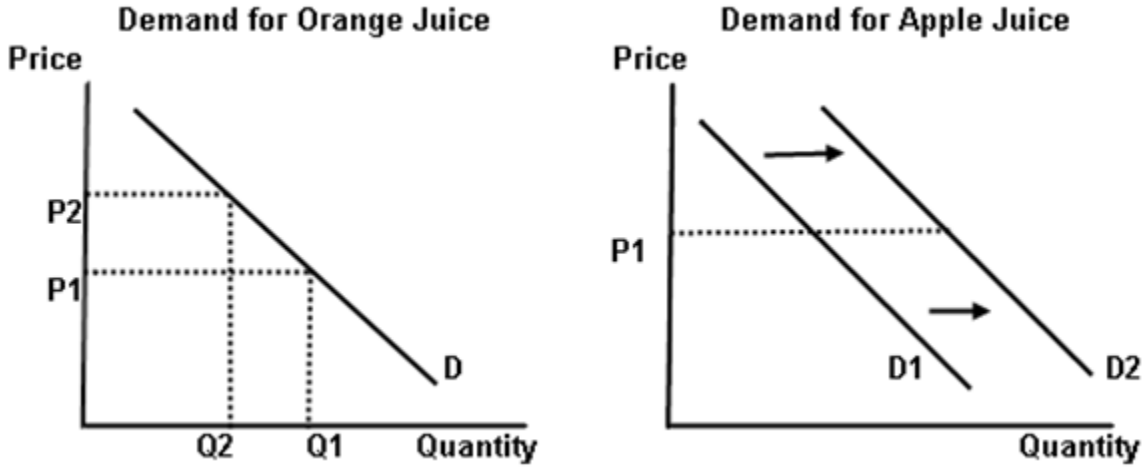
Part I. Multiple Choice Questions. Circle the best choice under each question/statement (10x3 = 30 marks).

1. What will occur in the market for big SUVs if there is a drastic increase in the price of gasoline
   a. price falls, quantity falls.
   b. price rises, quantity rises.
   c. no change in price or quantity occurs.
   d. price falls, quantity rises.
   e. price rises, quantity falls.

2. If the government imposes a percentage tax on the consumers, the more elastic the demand curve, the
   a. Smaller the drop in equilibrium quantity.
   b. Larger the deadweight loss.
   c. The higher the tax revenue.
   d. All of the answers are correct.

3. Suppose the demand is given by P=10-2Q, and the equilibrium price is $4. What is the value of the consumer surplus?
   A) $9.
   B) $7.
   C) $5
   D) cannot be determined.

Figure 4.3



4. Referring to figure 4.3, suppose that the price of orange juice increases from P1 to P2 and the demand curve for apple juice shifts to the right from D1 to D2. What is the relationship between orange juice and apple juice?
   A) The demand for both types of juices must be elastic.
   B) Orange juice and apple juice must be substitutes.
   C) The demand for both juices must be inelastic.
   D) Orange juice and apple juice must be complements.

5. An oil company dumps toxic wastes in the nearby lakes damaging the livelihood and health of the indigenous people living around. This is an example of ___ externality. Without any government policies, the amount of oil will be too ___ compared to the efficient equilibrium. To correct this problem, the government can use a corrective ___.
   A) Positive; high; tax
   B) Negative; high; tax
   C) Negative; low; subsidy
   D) Positive; low; subsidy

6. If market demand is inelastic at the current market price, total expenditure (i.e. revenue) on this product would be higher if supply was
   a. kept constant.
   b. decreased.
   c. maximized.
   d. increased.

7. Suppose two politicians are arguing about policies to deal with healthcare reform. One is saying “The government should provide health care to everyone because it is a basic human right”. The other politician responds “Healthcare is a privilege, not a right. Besides, it is unfair that government imposes more tax on me to provide healthcare to other people”. These politicians
   a. disagree because they are using different positive judgements.
   b. disagree because they are using different normative judgements.
   c. really dont disagree at all. It just looks that way.
   d. do none of the above.

8. Suppose the market for an Aspirin has a normal upward sloping supply curve and a tax is imposed on sellers. If this tax causes no change in the equilibrium quantity, the demand curve for Aspirin must be _____, meaning that the burden of the tax has fallen on the _____.
    a. Unit elastic; government only.
    b. Horizontal; sellers only.
    c. Vertical; consumers only.
    d. Horizontal; consumers only.
    e. Vertical; sellers only.
9. The price of apples at a local market rises from $2.95 to $3.05 per kilo, and as a result the quantity of oranges that households purchase increases from 3950 to 4050 kilos per week. The arc cross-price elasticity (using the mid-point method) is
    a. -1.33.
    b. 0.75.
    c. 0.65.
    d. 1.33.
    e. -1.5.

TABLE 1
Demand and Supply Schedules for Candy Bars

Price ($)	**Quantity Demanded** (thousands per week)	**Quantity Supplied** (thousands per week)
2.00	1500	2100
1.80	1600	2050
1.60	1700	2000
1.40	1800	1950
1.20	1900	1900
1.00	2000	1850
0.80	2100	1800
0.60	2200	1750
0.40	2300	1700

10. Refer to Table 1. Suppose that as a public health measure the government wants to reduce the number of candy bars that people consume. To achieve this outcome the government could implement which of the following policies
    a. Impose a price ceiling of $1.80.
    b. Impose a price ceiling of $2.
    c. Impose a price floor of $1.80.
    d. Impose an equilibrium price of $1.2.

Part II. Short Questions.

Question 1 (20 marks):
Table 4.2: Demand and Supply

Price	Quantity demanded	Quantity supplied	Quantity Supplied After Tax = $2 per unit
$13	0	100	80
$12	10	90	70
$11	20	80	60
$10	30	70	50
$9	40	60	40
$8	50	50	*30*
$7	60	40	20
$6	70	30	10
$5	80	20	0
$4	90	10	-
$3	100	0	-

(i) Fill in the last column (quantity Supplied after tax) assuming that a $2.00 per unit excise tax is imposed on the suppliers. (8 marks)

(ii) What is the equilibrium price and quantity and tax-incidences after the $2 tax is imposed? (6 marks)

Before-tax equilibrium price = $8, and before-tax equilibrium quantity = 50
After-tax Equilibrium Price = $9, and After-tax Equilibrium Quantity: = 40

(iii) Assuming straight line demand and supply curves, compute the dead weight loss from this tax. (6 marks)

DWL = 0.5 x $2 x 10 = $10

Without doing any calculation, state whether the dead weight loss would be bigger or smaller if the supply curve was given by the equation: $P = 2 + 0.2Q$. Circle the correct choice:

Bigger dead weight loss Smaller dead weight loss

Reason: The S curve in the table has a slope of 1/10=0.1. If slope was 0.2, the supply curve would have been less elastic at a given price. The less elastic demand/supply curve is, the smaller the DWL.

Question 2 (20 marks): The following table shows price of gasoline in different years, and the cost (i.e. price) of the fixed basket of consumer goods that a typical household buys.

Years	*2000*	*2010*
Nominal Gasoline Price	$2.60	$3.00
Cost of the CPI Basket	$1500	$1875
CPI (Base year = 2000)	*100*	125

(i) Compute 2010's nominal price index for gasoline using 2000 as the base period (8 marks)

$\frac{3.00}{2.60} \times 100 = 115$

(ii) Compute the CPI's for the two years and fill out the empty cells in the able above. Now compute 2010's real price index for gasoline. (6 marks)

Real Index_{2010} = (Nominal Index_{2010}/CPI_{2010}) x 100 = (115/125) x 100 = 92

(iii) In 2010, was gasoline more or less expensive compared to other typical consumer goods? What was the percentage difference between gasoline price and other consumer goods? (6 marks)

Gasoline real price index was 92 (i.e. the ratio of Gasolin price to Consumer goods price was = 92 /100). Gasoline was relatively less expensive in 2010 compared to other consumer goods (i.e. 92 < 100). The difference was 8%.

Question 3 (30 marks):
Suppose the demand and supply curves for cigarettes are the following:

Demand: P = 70 - 0.2Q Supply: P = 0.2Q + 10

The price is in dollars per carton, and quantity is in millions of cartons per week.

(i) What are the market equilibrium price and quantity ? (7 marks)

In equilibrium: $70 - 0.2Q = 0.2Q + 10$

$\Rightarrow 60 = 0.4Q$

$\Rightarrow Q_E = 150$ (millions of cartons)

$P = 0.2 * 150 + 10 = 40\$$ (per carton)

(ii) Suppose the government places a $10 per carton excise tax on cigarettes in an effort to reduce smoking. The tax is imposed on the sellers. (7 marks)

Write down the equation for the new supply curve: $P = 0.2Q + 20$

Calculate the new equilibrium price after tax:

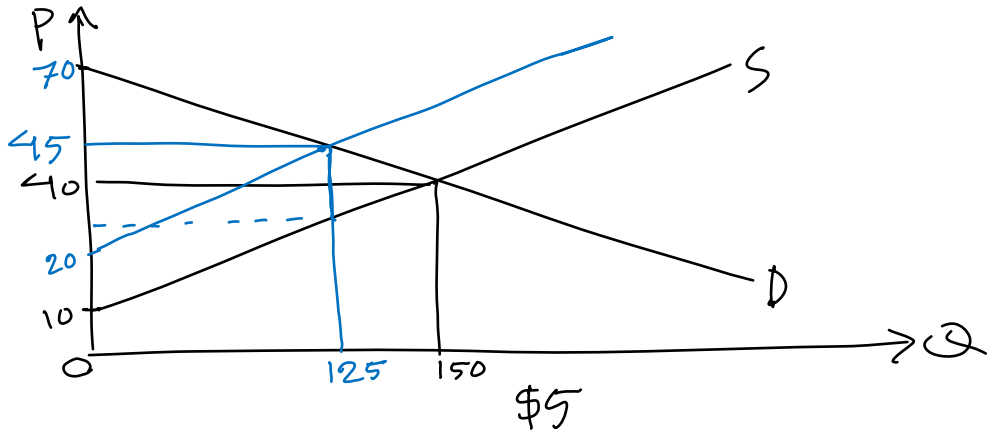
$70 - 0.2Q = 0.2Q + 20$

$\Rightarrow 50 = 0.4Q$

$\Rightarrow Q_E = 125$ (millions of cartons)

$P_E = 0.2 * 125 + 20 = \$45$ (per carton)

(iii) Draw a rough sketch of the supply and demand curves, showing the before-tax equilibrium price and quantity. Then show the changes caused by this tax. Label your graph and show the original equilibrium, direction of shift, the new equilibrium price. (8 marks)



How much has the price increased for the buyers?

How much do sellers receive per pack AFTER paying the tax? 45 − 10 = 35 $

How much money is collected in excise taxes?

125 × $10 = $1250

(iv) Is this tax strategy successful in reducing smoking? Circle the answer: YES NO (8 marks)

If yes, then by what is the amount of reduction? 150 − 125 = 25 (million cartons)

If instead of using a tax, the government wanted to use some other tool to achieve the same level of reduction in quantity,

(a) Could a price-floor be used? Circle the answer: (YES) NO
If yes, what price would the government set? $45 ; buyers would not by more then 125 at this price.

(b) Could a price-ceiling be used? Circle the answer: (YES) NO
If yes, what price would the government set? $35 so that sellers do not want to sell more than 125 units.

(c) Would a quota be used? Circle the answer: YES NO
If yes, what quantity would the government set? 125 units

(d) If the equation of the demand curve was Q=150, would smoking reduce because of this tax?

Circle the answer: YES (NO)

Explain your answer in a sentence or two: If demand is perfectly inelastic, buyers would not change their behaviour even though sellers shift the burden of tax on the buyers.