CONCORDIA UNIVERSITY
Department of Economics

ECON 201 Sec Y
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Exam duration: 60 min.; No. of questions: 13

MIDTERM EXAMINATION Winter 2012
Version 1

Multiple Choice Questions: answer all (each MC question carry 3 pts)

Q1. If the government imposes a price floor for a commodity then this means
a. The Price is set above the equilibrium price.
b. The Price is set below the equilibrium price.
c. This creates excess supply in the market.
d. This creates excess demand in the market.
e. **Both a and c are correct.**

Q2. When asked in an interview what she missed the most because of the time she spent training for the Olympics, a rower revealed that she had given up a job that paid $40,000 per year to train full-time. She received a grant of $10,000 per year from Sports Canada, but this could not cover all her training expenses. Her food and rent were $10,000 per year and training expenses were $15,000 per year. What is the annual opportunity cost, expressed in dollars, to this rower of "Going for Gold"?
a. $25,000
b. $40,000
c. $37,000
d. **$45,000**
e. None of the above.

Q3. Which of the following statement is true about the incidence of taxation?
a. The more elastic the demand curve is, the lower is the burden of tax borne by the consumers.
b. The more elastic the demand curve is, the higher is the tax burden borne by the producers.
c. Elasticity plays no role in how tax burden are shared between consumers and producers.
d. The more inelastic the demand is, the higher is the tax burden on producers.
e. **Both a and b are correct.**

Q4. Demand is affected by:
a. Consumer Income
b. Tastes of Consumers
c. The Prices of Related goods
d. Expectation of the consumers
e. **All of the above**

Q5. If goods J and K are substitutes, an increase in the price of J causes:

a. quantity demanded of J to fall and the demand curve for K to shift towards the origin.
b. a decrease in quantity demanded for J and an outward shift of K's demand curve.
c. quantity demanded of J remains constant, but the demand for K decreases.
d. the demand curve for both J and K shift.
e. None of the above is correct.

Q6. David and Sophia each have 24 Hrs available. With this David can produce a maximum of 16 units of good X or 8 units of good Y or combination of the two. Sophia on the other hand can produce either a maximum of 12 units of good X or 4 units of good Y or a combination of them. Assume that the opportunity cost of production of the goods does not change with scale of production. Then using good X in X axis and good Y in Y axis we drew PPF for both David and Sophia and conclude that:

a. David's PPF is flatter than the PPF of Sophia.
b. Sophia should specialize in producing good Y.
c. **Sophia should specialize in producing good X.**
d. David should specialize in producing good X.
e. All of them are incorrect.

Q7. The supply of apples is determined by the size of orchards, the number of apple trees, and the quantity of apples per tree. The quantity of apples per tree depends on the weather and the amount of fertilizer and pesticides that farmers use. Given all these factors that affect supply, is the long-run supply for apples likely to become more elastic or more inelastic than the short-run supply?

a. The long-run supply for apples will be more inelastic.
b. **The long-run supply for apples will be more elastic**.
c. The elasticity of supply will be the same in the short and long run.
d. These factors do not affect elasticity.
e. The elasticity of the long-run supply is dependent on the shape of the demand curve.

Q8. Let we are given an equation of a straight line demand curve: $P = 240 - 5Q$ for a good where the price is measured in dollar. Which one of the following statements is true for this demand function?

a. If we increase 240 in the equation to 280 then in the graph this is represented by a parallel and downward shift of the curve.
b. This is an upward sloping demand curve.
c. For the consumption to increase by one more unit, the market price must come down by $5.
d. The equation may be used to represent the supply of a commodity.
e. Both a and c are true.

Q9. An improvement in the technology used in producing B, which is a complement for good A will

a. shift the demand for A inward
b. shift the demand for A outward
c. shift the supply of A inward
d. shift the supply of A outward
e. None of the above will happen

Q10. Let's assume you are deciding what to do in the next couple of hours. You have a number of options available but you do not prefer them equally. These options are as follows and listed according to your preference.

1) Watch a hockey game
2) Go to watch a Movie
3) Surf in the internet
4) Go to your Econ 201 class

Assume that you end up attending Econ 201 lecture; what is the opportunity cost of doing that?

b. Go to watch a movie
c. Watch a hockey game
d. Surf in the Internet
e. Go to your Econ 201 class
f. None of the above

Answer all the following numerical questions: (each part carries 5 pts, unless otherwise mentioned; **show your work**)

Problem 1: Assume demand for good X is given by the equation: $P = 50 - Q$.

a. Find out the Arc elasticity of demand for a price change from \$10 to \$15.

Answer: −0.2

b. Find out the point elasticity of demand at price \$20.

Answer: $-\frac{2}{3} or -.67$

c. The cross price elasticity of demand measures the percentage change in quantity demanded of a good due to percentage change in price of a second good. Assume that the demand for good X is related to price of good Y. The demand for good X as a function of price of good Y is given by, $P_y = 20 - 2Q_x$. Find out the point cross price elasticity of demand at Price \$10.

Answer: $\dfrac{\Delta Q_x / Q_x}{\Delta P_y / P_y} = \dfrac{\Delta Q_x}{\Delta P_y} \times \dfrac{P_y}{Q_x} = (1/-2) \times \dfrac{10}{5} = -1$

d. Given the sign you found in 'part c above' what do you think to be the relationship between X and Y.

Answer: X and Y are complementary goods.

Problem 2: The demand function for amalgamated widgets is

$$P = 50 - \frac{Q}{2},$$

and the supply function is

$$P = 4 + \frac{Q}{2}.$$

a. Find the equilibrium price and quantity; graph your solution, labeling the intercepts. (1+1=2 marks)

P = 27 and Q = 46

b. Find consumer surplus, producer surplus and the total social welfare. (5+5+2=10 marks)

CS =(50-27)*46/2= $529

PS =(27-4)*46/2=$529

TW = TS = $1058

Suppose the government now decides to impose an ad-valorem tax of 25 percent to the suppliers of widgets.

c. Find the new equilibrium quantity, the price per unit paid by consumers, the payment per unit received by producers. (2 + 2+2 marks)

Q = 40

Price paid by consumers = 30.0

Payment per unit received by producers = 24.0

Problem 3: The demand for widgets is given by $P = 50 - Q$ and the supply by $P = 2 + Q$.

a. Find out the equilibrium price and quantity in this market.

Answer: $P^* = 26, Q^* = 24.$

b. Assume that government wants to help the producers by setting a price floor for this commodity. Can it set a price at \$52 per unit? Why or why not?

Answer: No. No demand exists at that high price.

c. Now, with a help of a graph show what happens to the equilibrium price and quantity in this market if government imposes a unit tax by the amount of \$t/Unit. (point this tax amount clearly in your graph; the answers do not entail numbers)

Answer: Supply curve shifts upward; price paid by the consumer increases, Price received by the producer decreases and the equilibrium quantity falls.

d. Assume that this unit tax amount is \$2. Find out the price paid by the *consumer*, price received by the *producer* and the new *equilibrium quantity*.

Answer: $P_c^* = 27, P_s^* = 25 \, and \, Q^* = 23.$