McGill

October 2016
Midterm

Microeconomic Analysis and Applications

Econ 208 – Section 2

Examiner: Mayssun El-Attar Vilalta

Student Name:		McGill ID:									

INSTRUCTIONS:

- **Make sure to indicate your name, ID and exam version on the scantron sheet and on the exam paper.**
- This examination consists of 16 multiple choice questions (each question accounts for 1 point) and 2 open questions (points indicated in each subquestion). There are 32 points in total. You have 70 minutes to answer them.
- Answer the MCQ on the scantron sheet provided to you. Space is provided on the examination paper to answer the open questions #1-2.
- Mark your answers on the computer sheet using **pencil only**.
- Answer your questions on the exam paper using only the space provided.
- The examination is **printed on both sides** of the paper.
- This is a **closed book** examination.
- The examination paper **must be returned.**
- A non-programmable, non-text storing calculator is permitted. A regular hard-copy translation dictionary is permitted.
- Half of the exam is a **multiple choice** examination. The Examination Security Monitor Program detects pairs of students with unusually similar answer patterns on multiple-choice exams. Data generated by this program can be used as admissible evidence, either to initiate or corroborate an investigation or a charge of cheating under Section 16 of the Code of Student Conduct and Disciplinary Procedures.

Open Question 1 (12 points)

During Quebec's Ice Storm of 1998, demand for candles rose dramatically. As theory predicts, so did prices. Many businesses were accused of taking advantage of the situation. This exercise considers the implications of holding prices constant during such a crisis.

Assume that each of the 100 households in the small town of Ville Glace has an identical weekly demand for candles, and the entire town's maket demand curve is $Q^D = 200 - 100P$. The supply of candles in Ville de Glace is perfectly inelastic at 100 per week.

1. Sketch a graph with the supply and demand for candles in Ville Glace. (1 point). Find the equilibrium price and quantity for the entire town. (2 points)

2. Draw your graph again and show the area that represents the consumer surplus. (2 points)

3. Suppose that when the ice storm knocks out the electrical supply, the demand for candles in Ville Glace increases to $Q^D = 1100 - 100P$. What is the new market equilibrium price and quantity? (2 points)

4. Suppose that price controls are introduced to keep prices at their pre-ice storm levels. How many candles would be sold? (1.5 points) How many candles would families like to buy? (1.5 points)

5. Why is there a potential for a black market in candles? Explain how it could work. (2 points)

Open Question 2 (4 points)

In this question I ask you to analyze the effect of different events in different markets. For each market sketch a demand and supply graph and draw the appropriate shifts of curves. For each market specify if there will be an increase or decrease in demand (D), supply (S), equilibrium price (P), and equilibrium quantity(Q), if there is no change, or if the change can't be predicted. (2 points for each market)

1. Consider the market for beer. Events: The population of drinking age increases; also, brewery unions negotiate a big increase in wages.

2. Consider the market for bicycles. Events: There is increasing concern by consumers about physical fitness; also, the price of gasoline falls.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Consider two demand curves and the same price change for both. If the resulting percentage change in quantity demanded is greater for one (D_1) than the other (D_2), we can conclude 1) _____
   A) that D_1 is inelastic and D_2 is elastic.
   B) that D_1 is more elastic than D_2.
   C) that D_1 is elastic and D_2 is inelastic.
   D) that D_2 is more elastic than D_1.
   E) nothing about their relative elasticities.

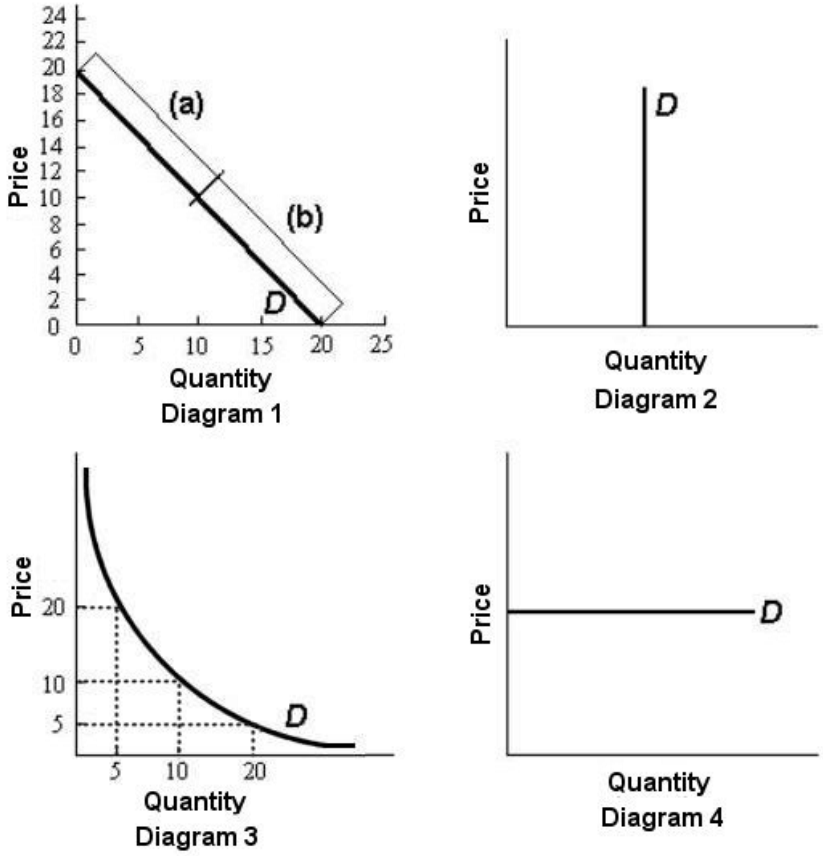

FIGURE 4–2

2) Refer to Figure 4–2. In diagram 1, the elasticity of demand over the price range \$14 to \$16 is 2) _____
   A) 0.
   B) less than 1.
   C) 1.
   D) greater than 1.
   E) infinity.

The following data show the total output for a firm when different amounts of labour are combined with a fixed amount of capital. Assume that the wage per unit of labour is $10 and the cost of the capital is $50.

Labour per period	Total output per period
0	0
1	10
2	30
3	90
4	132
5	150

TABLE 7–3

3) Refer to Table 7–3. The average total cost when producing 90 units of output is approximately 3) _____
A) 89 cents. B) $26.67. C) 30 cents. D) 33 cents. E) 27 cents.

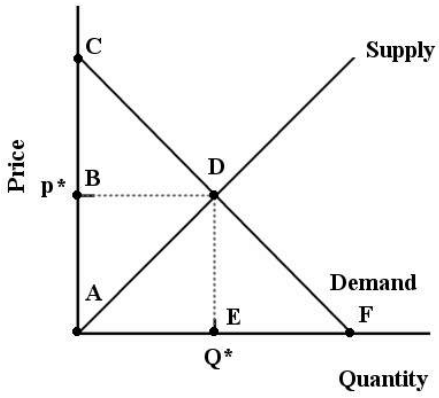

FIGURE 6–6

4) Refer to Figure 6–6. Suppose the market price is p*. In this case, the total value consumers place on consuming Q* units is outlined by the area 4) _____
A) ABD. B) BCD. C) ACDE. D) ADE. E) ABDF.

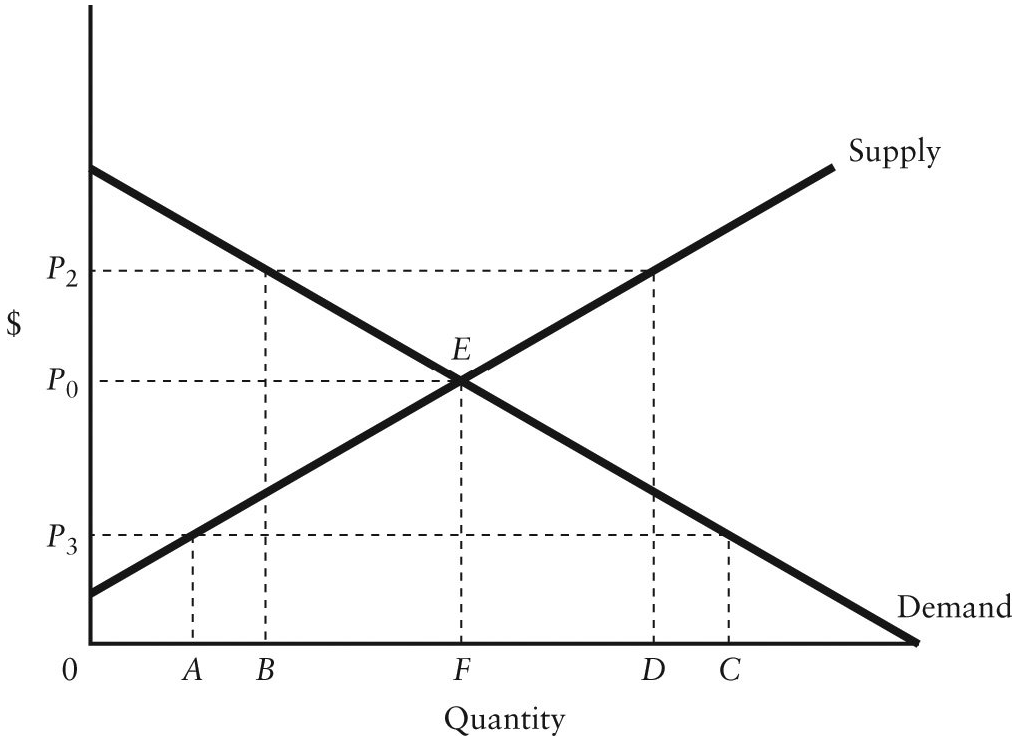

FIGURE 5–1

5) Refer to Figure 5–1. If the diagram applies to the market for rental housing and P_3 represents the maximum rent that can be charged, then 5) _____
   A) units supplied will be reduced relative to the competitive equilibrium by AF rental units.
   B) there will be excess demand for rental units equal to FC.
   C) there will be excess demand for rental units equal to AF.
   D) windfall profits will be earned by landlords.
   E) there will be an excess supply of rental units equal to BD.

6) Suppose that a bakeshop with 5 employees can produce both pies and cakes. In one day, if all resources are devoted to baking pies, the shop can produce 125 pies; if all resources are devoted to baking cakes, the shop can produce 50. What is the shop's opportunity cost of producing any one cake? 6) _____
   A) 2.5 cakes B) 2.5 pies C) 0.25 pies D) 0.4 cakes E) 0.4 pies

7) A positive statement is one that states 7) _____
   A) what is desirable.
   B) what is, was, or will be.
   C) non–negative numbers.
   D) what is and what should be.
   E) what should be but is not.

8) Consider a local market for 4–litre containers of windshield–wiper fluid. In January 2015, 100 000 containers were sold at a price of $3 each. In March 2015, 120 000 containers are sold at a price of $8 each. Does this change in equilibrium price and quantity violate the "law of demand"? 8) _____

A) No, because the "law of demand" is not valid.
B) Not necessarily, because the supply curve could have shifted to the right, leading to an increase in equilibrium price and quantity.
C) Not necessarily, because the demand curve could have shifted to the right, leading to an increase in equilibrium price and quantity.
D) Not necessarily, because the demand curve could have shifted to the left, leading to an increase in equilibrium price and quantity.
E) Not necessarily, because the supply curve could have shifted to the left, leading to an increase in equilibrium price and quantity.

The table below provides the annual revenues and costs for a family–owned firm producing catered meals.

Total Revenues ($)	500 000
Total Costs ($)	
– wages and salaries	200 000
– risk–free return of 6% on owners' capital of 250 000	15 000
– rent	105 000
– depreciation of capital equipment	25 000
– risk premium of 8% on owners' capital of 250 000	20 000
– intermediate inputs	150 000
– forgone wages of owners in alternative employment	80 000
– interest on bank loan	10 000

TABLE 7–1

9) Refer to Table 7–1. The economic profits for this family–owned firm are 9) _____

A) –$10 000.
B) $115 000.
C) $10 000.
D) –$105 000.
E) $0.

Dave's Consumer Surplus on Movie Rentals per Week
(*yes, we know no one rents movies anymore, but it makes a good example!)*

Number of movies rented per week	Amount Dave is willing to pay to rent this movie ($)	Dave's consumer surplus on each movie rental if price is $5 each
1st	10.00	
2nd	8.00	
3rd	6.50	
4th	5.50	
5th	5.00	
6th	4.50	
7th	4.25	

TABLE 6–2

10) Refer to Table 6–2. If Dave rents 5 movies in one week, his total consumer surplus is _____ and the total amount he pays is _____. 10) _____
A) $10; $25
B) $5; $25
C) $9.50; $5
D) $0; $25
E) $9.50; $25

11) Chantal has a full–time job as a geological engineer and earns an annual after–tax salary of $85 000. She decides to leave her job for 6 months to scuba dive on the Great Barrier Reef in Australia, and incurs costs of $7500 for course equipment and certification, $2500 for airfare, and $12 000 for regular living expenses in Australia (equal to her living expenses at home). What is Chantal's opportunity cost for this 6–month, unpaid leave of absence? 11) _____
A) $22 000 B) $65 000 C) $42 000 D) $52 500 E) $12 000

The table below shows hypothetical tuition costs at a Canadian university.

Year	Tuition
2012	$5000
2013	$5050
2014	$5100
2015	$5150
2016	$5200

TABLE 2–1

12) Refer to Table 2–1. Assume that 2012 is used as the base year, with the index number = 100. The value of the index number in 2014 is calculated as follows: 12) _____
A) (5100/5000) × 100 = 102.
B) 5100/5000 = 1.02.
C) 5000/5100 = 0.98.
D) 5100/5100 = 100.
E) (5000/5100) × 100 = 98.

13) Consider an excise tax imposed on daily parking charges in the downtown of a small city. Before the imposition of the tax, equilibrium price and quantity are $15 and 100 cars parked. (P = $15, Q = 100). The city government imposes a tax of $3 per car parked per day. Market equilibrium adjusts to P = $16 and Q = 95. After imposition of the tax, what is the daily after-tax price received by the seller per car parked? 13) _____

A) $13 B) $15 C) $1 D) $16 E) $3

14) Geoff is willing to pay $13 for a sixth entrance to a mountain bike park. The market price for entrance is $10.50. The bike park is willing to accept $8.75. The total economic surplus generated from Geoff's sixth trip to the bike park is 14) _____

A) $10.50. B) $13.00. C) $4.25. D) $2.50. E) $1.75.

15) Consider a market in which there is a government-set price. If there is excess demand at this price, 15) _____

A) the market is in disequilibrium.
B) the market is in its free-market equilibrium.
C) the product has not reached the point of saturation.
D) none of the product will be exchanged.
E) there are unsuccessful sellers.

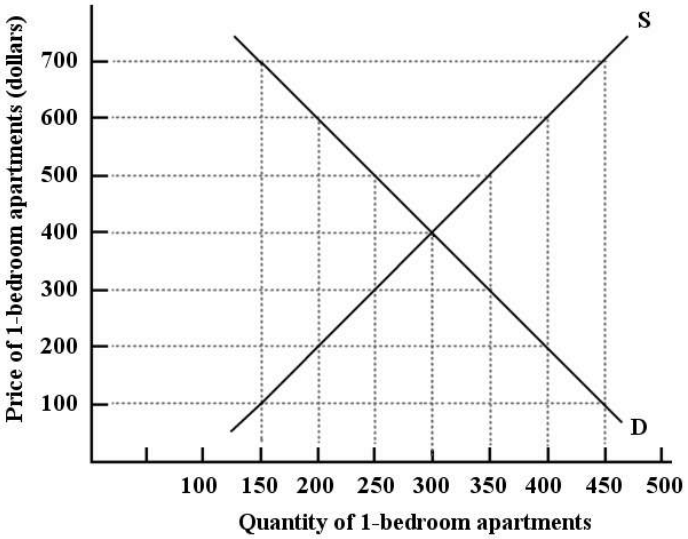

FIGURE 3-4

16) Refer to Figure 3-4. If the price of 1-bedroom apartments in Collegetown were $300, there would be a _____ of _____ apartments. 16) _____

A) surplus; 50
B) surplus; 100
C) surplus; 150
D) shortage; 50
E) shortage; 100