Econ 101 – Lec 3
Fall 2001
Midterm #2
Version 1
November 6, 2001

Student Name: _____
ID Number: _____
Section # (Official): _____
TA Name (Official): _____

MIDTERM #2

VERSION 1

DO NOT BEGIN WORKING
UNTIL THE INSTRUCTOR TELLS YOU TO DO SO.
READ THESE INSTRUCTIONS FIRST.

You have the class period to complete the exam, 75 minutes. The exam consists of 29 multiple choice questions. Each multiple choice question is worth 1 point for a total of 29 points. The information asked on the top right corner of this page and on the coding sheet is worth 1 point. In order to ensure these points make sure you provide all information correctly. Please answer all questions on the coding sheet with a #2 **pencil**. **No calculators or formula sheets are allowed.** There are 12 pages in this exam booklet.

How to fill in the coding sheet:

1. Print your last name, first name, and middle initial in the spaces marked "Last Name," "First Name," and "MI." Fill in the corresponding bubbles below.
2. Print your student ID number in the space marked "Identification Number." Fill in the corresponding bubbles below.
3. Write your **official** discussion section number under "Special Codes" spaces **ABC**, and fill in the bubbles. You can find the discussion numbers below on this page.
4. Write the version number of your exam booklet under "Special Codes" space **D**, and fill in the bubble. The version number is written on the top left corner and at the top of this page.

- If you have any questions during the exam, stay seated and raise your hand.
- When you are finished, please get up quietly and bring your code sheet and this exam booklet to the place indicated by the instructors.

Sections:

Disc 355 11:00-11:50am R Oya Ardic	Disc 365 08:50-09:40am F Vien Huynh
Disc 356 11:00-11:50am R Miaojie Yu	Disc 366 08:50-09:40am F Young-Joon Park
Disc 357 11:00-11:50am R Hyung Rok Yim	Disc 367 09:55-10:45am F Young-Joon Park
Disc 358 12:05-12:55pm R Hyung Rok Yim	Disc 368 09:55-10:45am F Miaojie Yu
Disc 359 12:05-12:55pm F Hyung Rok Yim	Disc 369 11:00-11:50am F Miaojie Yu
Disc 360 01:20-02:10pm F Hyung Rok Yim	Disc 370 11:00-11:50am F Hyung Rok Yim
Disc 361 02:25-03:15pm R Vien Huynh	Disc 371 12:05-12:55pm F Young-Joon Park
Disc 362 09:55-10:45am F Vien Huynh	Disc 372 01:20-02:10pm F Young-Joon Park
Disc 363 11:00-11:50am F Vien Huynh	Disc 373 08:30-09:20am R Oya Ardic
Disc 364 03:30-04:20pm R Vien Huynh	Disc 374 04:00-04:50pm R Young-Joon Park

Question 1: If the demand function is $Q^D = 30 - 6P$, then which point below has the unit price elasticity of demand?

A. $(Q^D,P) = (15,2.5)$
B. $(Q^D,P) = (18,2)$
C. $(Q^D,P) = (21,1.5)$
D. $(Q^D,P) = (6,4)$
E. $(Q^D,P) = (12,3)$

Question 2: The total utility you get from eating slices of pizza on a given night

A. is the marginal utility of the last slice times the total number of slices eaten.
B. is the sum of the difference in marginal utility as you increase the number of slices eaten.
C. is the sum of the marginal utility for all slices eaten.
D. is the sum of the marginal utility per dollar spent on all slices eaten.
E. is the marginal utility per dollar times the total number of slices eaten.

Question 3: In 1803,Economist David Ricardo claimed that the nominal wage level in England was £220 per month. He also knew that the value of the price index for 1803 was 110. Then we can conclude that the monthly real wage in England was:

A. £110
B. £200
C. £220
D. £330
E. £380

Question 4: The price of HP printer rises from $60 to $80; Total revenue falls from $3,000 to $2,400.We can conclude that price elasticity of demand is _____, which means that demand is_____. (Use arc elasticity to solve this problem.)

A. -0.75, inelastic
B. 0.75, elastic
C. –1.75, inelastic
D. –1.75, elastic
E. 1.75, elastic

Question 5: The cross-price elasticity of demand between two goods X and Y is 0.07, while the cross-price elasticity of demand between two goods A and B is –1.93, then we can conclude that:

A. X and Y are complements, A and B are complements.
B. X and Y are substitutes, A and B are complements.
C. X and Y are substitutes, A and B are substitutes.
D. X and Y are complements, A and B are substitutes.
E. X and Y are luxury goods, A and B are necessary goods.

Question 6: When price changes by 9%, the quantity supplied of the video tape "When Harry met Sally" changes 11%. The supply of this tape is _____ and _____ .

A. Upward sloping, inelastic
B. Upward sloping, elastic
C. Upward sloping, unit elastic
D. Downward sloping, inelastic
E. Downward sloping, elastic.

Question 7: The following statements describe the paradox of value between water and diamonds. Which of the following is FALSE?

A. The paradox of value refers to the fact that necessities have low prices while luxuries have high prices.
B. The marginal utility of water is always greater than the marginal utility of diamonds since water is a necessity.
C. As the total utility of diamonds increases, the marginal utility of diamonds eventually decreases.
D. The paradox of value can be explained by distinguishing between total utility and marginal utility.
E. The marginal utility per dollar spent on diamonds equals the marginal utility per dollar spent on water.

Question 8: Suppose the Chinese government imposes a price ceiling on one bedroom apartment rents. If this price ceiling is set above the equilibrium rent level, this will:

A. lead to a persistent shortage of one bedroom apartments.
B. lead to a persistent surplus of one bedroom apartments.
C. shift the supply curve for one bedroom apartments to the right.
D. shift the supply curve for one bedroom apartments to the left.
E. have no effect on the housing market.

Question 9: Suppose consumer income is \$100 per month and the price of good X (P_X) is \$5 per unit while the price of good Y (P_Y) is \$2 per unit. The equation for the consumer's budget line is _____. If the consumer spends all his income on good X, he may purchase _____ units of good X.

A. $Y = 100 - (5/2)X$; 40
B. $Y = 50 - (2/5)X$; 15
C. $Y = 100 - (2/5)X$; 25
D. $Y = 50 - (5/2)X$; 20
E. $Y = 100 - (5/2)X$; 10

Question 10: Suppose a consumer can purchase just two goods, books and CDs. Let the price of books rise from $20 to $30 each, the price of CDs rise from $12 to $18 each, and the consumer's money income rise from $100 to $150 per week. The bundle of goods consumed now, as compared to the bundle consumed before prices and income changed, will have

A. more books and more CDs.
B. fewer books and fewer CDs.
C. more books and fewer CDs.
D. fewer books and more CDs.
E. identical quantities of both goods.

Question 11: In the labor market, the market supply curve is $Q^S = 2P - 5$ while the market demand curve is $Q^D = 5 - P/2$. Suppose that the government enacts a minimum wage (P) of $5.17. Then, this is an example of the government imposing a _____ with the gap between the minimum wage and the equilibrium wage equaling _____ .

A. Price ceiling, $1.17
B. Price ceiling, $5.17
C. Price floor, $1.17
D. Price floor, $5.17
E. Price floor, $3

Question 12: Oya consumes only chocolate bars and vanilla ice cream and she is spending all of her income. At her current consumption bundle, Oya's marginal utility of chocolate bars is 200 utils and her marginal utility of vanilla ice cream is 200 utils. The price of a chocolate bar is $1.00 and the price of a scoop of vanilla ice cream is $2.00. To maximize her utility, Oya should

A. buy more chocolate bars and less vanilla ice cream.
B. buy more vanilla ice cream and fewer chocolate bars.
C. not change her purchases between chocolate bars and vanilla ice cream.
D. buy only chocolate bars but no vanilla ice cream.
E. buy only vanilla ice cream but no chocolate bars.

Question 13: Which of the following statements is FALSE?

A. A change in consumer's preferences for either of the two goods will cause a change in the slopes of the consumer's indifference curves between the two goods.
B. The marginal rate of substitution is the slope of the indifference curve.
C. An equal percentage decrease in the prices of the two goods will cause a parallel shift outward of consumer's indifference curves.
D. The additional utility you get from consuming the last unit of good X is called the marginal utility of good X.
E. Any point below a given indifference curve is inferior to any point on the indifference curve.

Question 14: Consider the market for jeans where the equilibrium price is $50 and the equilibrium quantity is 30 pairs of jeans in the market. Suppose that the government implements an excise tax of $3 per pair of jeans. Assume that both the law of demand and the law of supply hold. Which of the following statements is FALSE?

A. The new market price is $53.
B. The supply curve will shit to the left.
C. The new market price is higher than the net price.
D. The consumers' surplus decreases with the imposition of the excise tax.
E. The area of producer and consumer surplus is larger before the tax than it is after the imposition of the tax.

Question 15: Suppose consumer income is $400 per month, the price of good X is $5 per unit, and the price of good Y is $4 per unit. Assume that the consumer's utility function is given by $U = X.Y$. When the consumer maximizes utility under her budget constraint, what is the utility maximizing level of consumption, (X, Y)?

A. (20, 30)
B. (30, 40)
C. (40, 50)
D. (50, 60)
E. (70, 80)

Question 16: The following table gives Smith's total utility from CDs and marginal utility from pizza. His marginal utility of the third CD is _____ and his total utility from consuming 4 pizzas is _____.

Quantity of CDs	Total utility from CDs (utils)	Quantity of pizza	Marginal utility from pizza (utils)
0	0	0	0
1	240	1	500
2	400	2	450
3	520	3	400
4	620	4	300
5	680	5	150

A. 520 utils ; 500 utils
B. 100 utils ; 1650 utils
C. 520 utils ; 300 utils
D. 120 utils ; 500 utils
E. 120 utils ; 1650 utils

Question 17: An individual demand curve represents the consumer's optimal consumption behavior at each price and quantity of the good. Thus, individual demand curves can be derived by _____ using _____ and _____, when _____ changes.

A. utility maximization ; total utility ; marginal utility ; income
B. utility maximization ; indifference curves ; budget line ; price
C. profit maximization ; indifference curves ; budget line : income
D. profit maximization ; opportunity costs ; budget line ; price
E. cost minimization ; opportunity costs ; indifference curves ; price

Question 18: A firm that has increasing returns to scale

A. has marginal costs which decline as output increases.
B. has short-run average costs which are constant as output increases.
C. has long-run average costs which increase as output increases.
D. obtains more than a doubling of output when all inputs are doubled.
E. both (C) and (D).

Use the following information to answer Question 19 and Question 20

Note: We consider Question 20 as the hardest question on the exam, answer all the questions on the exam before answering these questions.

Consider the US automobile market. Suppose, for simplicity, there are only two automobile producers: Toyota and Ford. The market demand curve for automobiles is given by:

$$P = 150 - 2Q^D$$

The **individual** supply curve for both Toyota and Ford are identical and each is given by:

$$P = 30 + 2Q^S$$

Suppose that the US government wants to discourage automobile imports from Japan. In order to achieve this goal, the government decides to put a tariff on each Toyota car that is sold in the US market. (Note: This tariff per unit is essentially an excise tax since it is also a tax levied per unit of the good sold.) The amount of tariff proposed is $30 per Toyota.

Question 19: What is the market equilibrium price and quantity before the tariff on Toyota is levied?

A. P = \$90, Q = 30
B. P = \$80, Q = 35
C. P = \$70, Q = 40
D. P = \$60, Q = 45
E. P = \$50, Q = 50

Question 20: What is the consumer surplus after the tariff is levied?

A. \$1225
B. \$2450
C. \$900
D. \$625
E. \$4900

Question 21: Suppose that an individual consumes only two goods: good X and good Y and that she maximizes her utility. Which of the following statements is TRUE?

A. If both good X and good Y are normal goods, then the income-consumption line for this individual is upward sloping.
B. If good X or good Y is inferior, then the income-consumption line for this individual is downward sloping.
C. Both good X and good Y cannot be inferior at the same time.
D. Both (A) and (B) are true.
E. (A), (B), and (C) are true.

Question 22: Which of the following statements about marginal product is TRUE?

A. The law of diminishing marginal product states that as a firm doubles both labor and capital, the return in output will be less than double.
B. The last worker added to a production process is just as effective as the first worker added.
C. A farmer should add as much fertilizer to his crop as he wants in order to increase his yield.
D. In a production process it is possible to have decreasing marginal product in an input and also constant returns to scale.
E. If total product is increasing, marginal product is increasing at an increasing rate.

Question 23: Which of the following statements is TRUE?

A. A change in relative prices, income being constant, will also cause a change in the purchasing power of the consumer.
B. In order to find the substitution effect of a change in relative prices, first we need to compensate the individual for the loss/gain in her purchasing power.
C. The income effect is always larger than the substitution effect.
D. Both (A) and (B)
E. (A), (B), and (C)

Use the following information to answer Question 24 and Question 25.

Consider the wheat market. The demand of wheat is given as $P = 60 - Q^D$ and the supply of wheat is given as $P = 30 + Q^S$. Now, suppose that the government implements a price support program with the price floor set at \$55.

Question 24: What correctly depicts the market situation?

A. There is an excess demand of 20 units and the direct cost of the support program to the government is \$1000.
B. There is an excess demand of 20 units and the direct cost of the support program to the government is \$1100.
C. There is an excess supply of 20 units and the direct cost of the support program to the government is \$1000.
D. There is an excess supply of 20 units and the direct cost of the support program to the government is \$1100.
E. There is an excess supply of 20 units and the direct cost of the support program to the government is \$1200.

Question 25: Suppose the government implements a price subsidy program instead of the price support program. Let the government target price be \$55. What is the cost of the subsidy program to the government?

A. \$300
B. \$400
C. \$500
D. \$600
E. \$700

Question 26: Suppose Jill spends her entire income on two goods: CDs (C) and books (B). Suppose also that Jill is a utility maximizer. Which of the following statements is TRUE?

A. Jill must be consuming a bundle at which $P_C = P_B$.
B. Jill's total utility at her utility maximizing bundle is equal to the sum of the marginal utility she gets from consuming the last CD and the marginal utility she gets from consuming the last book.
C. Jill equalizes her marginal utility per dollar she spends on CDs and her marginal utility per dollar she spends on books to maximize her utility.
D. If Jill's income increases, she will increase her consumption of CDs and books by an equal amount.
E. All of the above.

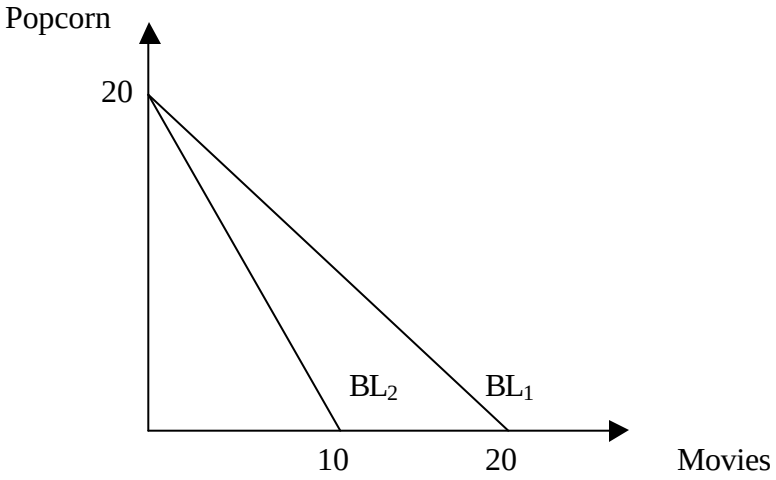
Question 27: Which of the following statements about an effective price subsidy program is TRUE?

A. The producers produce too much of the good from an allocatively efficient point of view.
B. The government target price is lower than the market equilibrium price.
C. In the price subsidy program, there exists excess demand.
D. The government expenditure is always greater in the price subsidy program than in the price support system.
E. The higher the target price holding everything else constant, the lower the government subsidy.

Question 28: Suppose that in order to produce steel, a steel factory uses two inputs: capital (K) and labor (L). Which of the following statements is TRUE?

A. In the short run since all inputs are variable, the production function for the steel company exhibits increasing returns to scale.
B. If the manager of the factory keeps on hiring workers without changing the amount of capital, eventually the additional workers will start not to increase output.
C. In the past year, the manager realized that the production function exhibits increasing returns to scale after observing that the output level more than doubles when the number of workers and the amount of capital are doubled.
D. Both (B) and (C)
E. (A), (B), and (C)

Question 29:



The graph above shows two different budget lines for Jack. Jack consumes only movies and popcorn. Further, Jack is a utility maximizer. Which of the following statements is TRUE?

A. If Jack's income is \$20, then the price of a movie is \$1 on BL_1.
B. If Jack is on BL_2, the slope of Jack's indifference curve at the point of utility maximization must be –2.
C. If the price of a movie is \$1 on both BL_1 and BL_2, then it is possible that his income is \$10 and the price of a bag of popcorn is \$0.50 on BL_2.
D. In order to maximize his utility Jack must choose a consumption bundle that lies on his budget line.
E. All of the above.