

NATIONAL UNIVERSITY OF SINGAPORE

EC2101 MICROECONOMIC ANALYSIS I

(SEMESTER II : AY2006-2007)

Time Allowed : 2 Hours

INSTRUCTIONS TO CANDIDATES

1. This examination paper contains 23 (20 Multiple Choice Questions and 3 Short Answer Types) questions and comprises 7 printed pages.
2. Answer ALL questions.
3. Use Bubble Form for the Multiple Choice Questions and the Answer Booklet for the Short Answer Types.
4. This is a CLOSED BOOK examination.
4. Each Multiple Choice Question is worth 2 marks; so (20 x 2) 40 Marks for MCQ and 20 Marks for Short Answer Types.
5. Total Marks for the paper is 60.

MULTIPLE CHOICE QUESTIONS

1. Over the past year price inflation has been 10%, but the price of a used Ford Escort has fallen from \$6,000 to \$5,000. The real price of a Ford Escort has fallen by:
 - a. 12%.
 - b. 17%
 - c. 20%.
 - d. 24%
 - e. 32%.
2. The effect of the September 11 attacks on the World Trade Center on the market for office space in downtown Manhattan was that both the equilibrium price and the equilibrium quantity fell. What is the most likely explanation for this?
 - a. Supply and demand both shifted left, and the magnitude of the demand shift was greater.
 - b. Supply and demand both shifted left, and the magnitude of the supply shift was greater.
 - c. Supply shifted left, demand shifted right, and the magnitude of the demand shift was greater.
 - d. Supply shifted left, demand shifted right, and the magnitude of the supply shift was greater.
3. Along any downward sloping straight-line demand curve:
 - a. both the price elasticity and slope vary.
 - b. the price elasticity varies, but the slope is constant.
 - c. the slope varies, but the price elasticity is constant.
 - d. both the price elasticity and slope are constant.
4. If a consumer is always indifferent between an additional one grapefruit or an additional two oranges, then when oranges are on the horizontal axis the indifference curves:
 - a. will be straight lines with a slope of $-1/2$.
 - b. will be straight lines with a slope of -1 .
 - c. will be straight lines with a slope of $+1/2$.
 - d. will be right angles whose corners occur on a ray from the origin with a slope of $+2$.
 - e. none of the above.
5. If prices and income in a two-good society double, what will happen to the budget line?
 - a. The intercepts of the budget line will increase.
 - b. The intercepts of the budget line will decrease.
 - c. The slope of the budget line may either increase or decrease.
 - d. Insufficient information is given to determine what effect the change will have on the budget line but we know society is worse-off.
 - e. There will be no effect on the budget line.

6. The price of lemonade is \$0.50; the price of popcorn is \$1.00. If Fred has maximized his utility by purchasing lemonade and popcorn, his marginal rate of substitution will be:
- 2 lemonades for each popcorn.
 - 1 lemonades for each popcorn.
 - 1/2 lemonade for each popcorn.
 - indeterminate unless more information on Fred's marginal utilities is provided.
7. Assume that beer is a normal good. If the price of beer rises, then the substitution effect results in the person buying _____ of the good and the income effect results in the person buying _____ of the good.
- more, more
 - more, less
 - less, more
 - less, less
8. John Brown's utility of income function is $U = \log(I+1)$, where I represents income. From this information you can say that
- John Brown is risk neutral.
 - John Brown is risk loving.
 - John Brown is risk averse.
 - we need more information before we can determine John Brown's preference for risk.
9. If input prices are constant, a firm with increasing returns to scale can expect
- costs to double as output doubles.
 - costs to more than double as output doubles.
 - costs to go up less than double as output doubles.
 - to hire more and more labor for a given amount of capital, since marginal product increases.
 - to never reach the point where the marginal product of labor is equal to the wage.
10. Consider the following statements when answering this question;
- I. A firm's marginal cost curve does not depend on the level of fixed costs.
- II. As output increases the difference between a firm's average total cost and average variable cost curves cannot rise.
- I is true, and II is false.
 - I is false, and II is true.
 - I and II are both true.
 - I and II are both false.
11. Which of the following is NOT a necessary condition for long-run equilibrium under perfect competition?
- No firm has an incentive to enter the market.
 - No firm has an incentive to exit the market.
 - Prices are relatively low.
 - Each firm earns zero economic profit.
 - Each firm is maximizing profit.

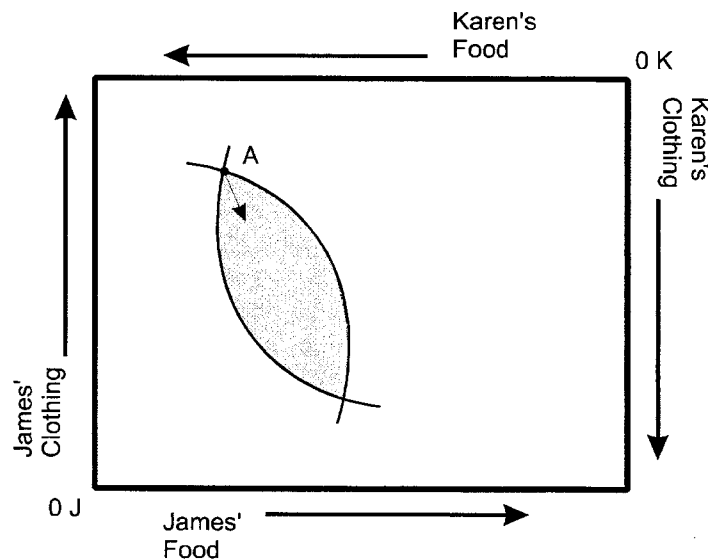
12. For a monopolist, at the profit-maximizing level of output, demand is
- completely inelastic.
 - inelastic, but not completely inelastic.
 - unit elastic.
 - elastic, but not infinitely elastic.
 - infinitely elastic.

Scenario 1: Consider the following game:

		Bull Meat	
		Expand in the West	Expand in the South
Deer Meat	Expand in the West	10, 60	50, 90
	Expand in the South	20, 80	40, 50

13. Which of the following is true regarding the game in **Scenario 1**?
- Only Bull Meat has a dominant strategy.
 - Only Deer Meat has a dominant strategy.
 - Both companies have a dominant strategy: expand West.
 - Both companies have a dominant strategy: expand South.
 - Neither company has a dominant strategy.
14. In the game in **Scenario 1**,
- there is one equilibrium: for both to expand West.
 - there is one equilibrium: for both to expand South.
 - there are two equilibria: either can expand in the West, and the other expands in the South.
 - there is only a mixed strategies equilibrium.
 - all four outcomes are equilibria.
15. In a Nash equilibrium,
- each player has a dominant strategy.
 - no players have a dominant strategy.
 - at least one player has a dominant strategy.
 - players may or may not have dominant strategies.
 - the player with the dominant strategy will win.
16. A "Credible Threat"
- is also called a "tit-for-tat" strategy.
 - always set a low price.
 - minimizes the return of your opponent.
 - is a strategy selection that is in your best interest.
 - provides the best return for both players.

17. Which of the following is true at the exchange equilibrium between two individuals?
- Their marginal rates of substitution are equal.
 - The slopes of the individuals' indifference curves are equal.
 - Both individuals' marginal rates of substitution are equal to the ratio of the prices of the goods.
 - (a) and (b) only.
 - (a), (b), and (c) are all true.
18. The Edgeworth box illustrates possibilities for Karen and James to increase their satisfaction by trading goods. If point A gives the initial allocation of food and clothing, a movement into the shaded area:



- leaves Karen better off, but James worse off.
 - leaves James better off, but Karen worse off.
 - leaves James and Karen worse off.
 - leaves James and Karen better off.
19. Consider a market in which high-quality and low-quality television sets are sold. Before consumers make a purchase, they do not know the quality of the sets, but the sellers do know. As compared to a situation where both consumers and sellers know the quality of the sets, this situation would
- cause no change in the ratio of low to high quality sets sold.
 - increase the fraction of high quality sets sold.
 - increase the fraction of low quality sets sold.
 - cause the average price of goods sold to rise.

20. Of the below, which is NOT a reason that the cost of a college education is greater for the low-productivity group than for the high-productivity group?
- a. The wages they give up by going to college instead of working will tend to be higher for them.
 - b. They may have to pay for tutoring services or other extra help to accomplish the same educational goal.
 - c. They may have to take remedial classes, which would increase the length of time it takes to accomplish the same goal.
 - d. Even if they take no remedial classes, they may have to spend more time studying for each class, and the value of their leisure time needs to be considered in the calculation.
 - e. Based on previous signaling, such as from their high school grades or SATs, they may receive less merit-based financial assistance, and thus be under a greater financial strain during their college years.

SHORT ANSWER TYPES FOLLOW (SEE NEXT PAGE)

SHORT ANSWER TYPES

1. A firm's demand curve is given by $P = 500 - 2Q$. The firm's current price is \$300 and the firm sells 100 units of output per week. Assuming that the firm's marginal cost is zero, is the firm maximizing profit?

[3]

2. Suppose a stream is discovered whose water has remarkable healing powers. You decide to bottle the liquid and sell it. The market demand curve is linear and is given as follows:

$$P = 30 - Q$$

The marginal cost to produce this new drink is \$3.

- What will be the price of this new drink if the industry is a symmetric Cournot duopoly?
- What will be the price of this new drink if the industry is a symmetric Bertrand duopoly?
- What will be the price of this new drink if the firms in the industry collude with one another to maximize joint profit?

[3+2+3] = [8]

3. Imagine a primitive society in which there are two goods: food and shelter. The utility functions for two representative members of the society, Jane and Paul, are given below.

Jane's utility function:

$$U^J = 25F^{0.5}S^{0.5}$$

Paul's utility function:

$$U^P = 50F^{0.75}S^{0.25}$$

where F = units of food, and S = units of shelter.

- Determine the marginal rate of substitution for each individual.
- The current prices of food and shelter are \$12 and \$6, respectively. Determine the proportions in which Jane and Paul should consume food and clothing to achieve a competitive equilibrium.

[4+5] = [9]**— END OF PAPER —**

