

ECON 251  
Final Exam  
Spring 2016

1. Elizabeth paid \$40,000 in tuition payments for college and is graduating at the end of the semester. She has received 3 job offers and has to pick one of them. The first job offer is from a prestigious accounting firm for \$80,000 a year, the second job offer is from a consulting company and pays \$65,000, and the third job offer is from a private investment management firm offering \$85,000 a year. Based on this information, what is Elizabeth's opportunity cost of accepting the job at the consulting company?
  - a. \$20,000
  - b. \$80,000
  - c. \$85,000
  - d. \$125,000
2. The \$40,000 Elizabeth paid in tuition \_\_\_\_\_ part of the opportunity cost of accepting the consulting job because \_\_\_\_\_.
  - a. Is not; it is a sunk cost
  - b. Is not; it is less than the consulting job salary
  - c. Is; that money can be spent on an alternative
  - d. Is; most college tuition bills would be more than \$40,000

Jane and Mike produce tennis racquets and brownies. In one hour, Jane can produce 3 racquets or 10 brownies. In one hour, Mike can produce 4 racquets or 12 brownies. Use this information to answer the following 3 questions.

3. \_\_\_\_\_ has an absolute advantage in producing brownies, and \_\_\_\_\_ has a comparative advantage in producing brownies.
  - a. Jane; Jane
  - b. Jane; Mike
  - c. Mike; Jane
  - d. Mike; Mike
4. If the number of racquets is measured on the x-axis and the number of brownies is measured on the y-axis, what is the slope of Jane's individual PPF?
  - a.  $-3.33 = -10/3$
  - b.  $-0.3 = 3/10$
  - c. -3
  - d.  $0.33 = 1/3$
5. If Mike and Jane work together to produce brownies and racquets, which of the following points would NOT be on their economy wide PPF?
  - a. 4 racquets; 10 brownies
  - b. 3 racquets; 12 brownies
  - c. 0 racquets; 22 brownies
  - d. 7 racquets; 0 brownies

6. When the price of refrigerator magnets increases from \$1 to \$1.50, the quantity of refrigerator magnets demanded falls from 10,000 to 9,500. This change in quantity demanded is an example of
  - a. A decrease in demand
  - b. The law of demand
  - c. The positive slope of demand
  - d. The increasing marginal benefit of refrigerator magnets as the quantity of refrigerator magnets increases
7. In the absence of any externalities, the supply curve represents which of the following?
  - a. Marginal benefit
  - b. Marginal cost
  - c. Total benefit
  - d. Total cost
8. Which of the following would increase the supply of Lulu Lemon leggings?
  - a. An increase in the price of Lulu Lemon leggings
  - b. An increase in the cost of producing Lulu Lemon leggings
  - c. A decrease in demand for Lulu Lemon leggings
  - d. A decrease in the price of Lulu Lemon headbands (substitutes in production)
9. Beef jerky and steak are substitutes in production. Beef jerky and fried chicken are substitutes in consumption. If the price of fried chicken falls at the same time that the price of steak increases, how is equilibrium in the market for beef jerky be affected?
  - a. Equilibrium price falls, and equilibrium quantity increases
  - b. Equilibrium price increases, and equilibrium quantity falls
  - c. Equilibrium price is indeterminate, and equilibrium quantity falls
  - d. Equilibrium price is indeterminate, and equilibrium quantity increases

The demand and supply equations in a market for yogurt are given below. Use this information to answer the following 5 questions.

$$\text{Demand: } Q^d = 10 - (1/2)P$$

$$\text{Supply: } Q^s = P - 8$$

10. What is the marginal benefit of the 4<sup>th</sup> yogurt to a consumer in this market?
  - a. \$12
  - b. \$10
  - c. \$8
  - d. \$20
11. What is the equilibrium price in this market?
  - a. \$4
  - b. \$8
  - c. \$10

d. \$12

12. What is total surplus in the market when the market reaches equilibrium?

- a. \$48
- b. \$36
- c. \$24
- d. \$12

13. If the price of yogurt rises from \$2 to \$4, what is the price elasticity of demand in that range?

- a.  $3/17 = 0.18$
- b.  $1/2 = 0.5$
- c. 1
- d. None of the above

14. If the price of yogurt rises from \$2 to \$4, revenue \_\_\_\_\_, implying that demand is \_\_\_\_\_ in that range.

- a. Increases; elastic
- b. Increases; inelastic
- c. Decreases; elastic
- d. Decrease; inelastic

15. When demand for a good is perfectly elastic, then which of the following is true?

- a. Demand curve is horizontal
- b. The slope of demand is 0
- c. Demand has a price elasticity of infinity
- d. All of above

16. The cross-price elasticity of demand between notebooks and pencils is -0.5. If the price of notebook increases by 20%, the quantity demanded of pencils would \_\_\_\_\_ by \_\_\_\_\_ as a result, implying that notebooks and pencils are \_\_\_\_\_.

- a. Decrease; 20%; substitutes in consumption
- b. Decrease; 10%; complements in consumption
- c. Increase; 10%; complements in consumption
- d. Increase; 10%; substitutes in production

Use the following inverse demand and supply equations in the market for cigarettes to answer the next 4 questions.

$$P = 30 - Q_d$$

$$P = 20 + 4Q_s$$

17. The market equilibrium price is \_\_\_\_\_ while the equilibrium quantity is \_\_\_\_\_.

- a. \$20; 10
- b. \$28; 2
- c. \$20; 2
- d. \$28; 10

18. If a price floor of \$5 is imposed in the market for cigarettes, which of the following would you expect to see as a result?

- a. A surplus of 25 cigarettes
- b. A shortage of 25 cigarettes
- c. A surplus of 38 cigarettes
- d. Neither a surplus nor a shortage of cigarettes

19. Now, instead of a price floor, suppose the government imposes a \$5 excise tax on sellers in the market for cigarettes. The price consumers pay increases by \_\_\_\_\_, implying that \_\_\_\_\_ bear more of the burden of this tax.

- a. \$5; consumers
- b. \$3; consumers
- c. \$2; producers
- d. \$1; producers

20. What deadweight loss results from this tax?

- a. \$5
- b. \$10
- c. \$1
- d. \$2.50

Perry has \$50 to spend at the bakery shop on muffins or doughnuts. The price of a muffin is \$5 and the price of a doughnut is \$7. The table below gives information on Perry's total utility from muffins and doughnuts. Use this information to answer the following 3 questions.

Quantity of muffins	Utility from muffins	Quantity of doughnuts	Utility from doughnuts
1	15	1	20
2	25	2	30
3	30	3	35
4	31	4	38
5	31	5	40

21. What is the equation for Perry's budget line? (denote quantity of muffins as M and quantity of doughnuts as D)

- a.  $M = (-7/5)D + 10$
- b.  $M = (-7/5)D + 50$
- c.  $D = (-5/7)M + 10$
- d.  $D = (-5/7)M + 50$

22. What is the marginal utility per dollar spent on the 3<sup>rd</sup> doughnut for Perry?
- a. 5
  - b.  $5/7=0.71$
  - c.  $7/5=1.4$
  - d.  $3/7=0.43$
23. When Perry maximizes his utility, which combination of muffins and doughnuts would he purchase?
- a. 3 doughnuts and 5 muffins
  - b. 5 doughnuts and 5 muffins
  - c. 5 doughnuts and 3 muffins
  - d. 4 doughnuts and 3 muffins
24. When a consumer's budget line is tangent to an indifference curve, which of the following occurs?
- a. Marginal utility is maximized
  - b. Consumer surplus is minimized
  - c. Utility is maximized given the consumer's limited budget
  - d. The marginal rate of substitution is maximized
25. Tickets to DisneyWorld cost \$100 each, and tickets to the local zoo cost \$5 each. For a consumer with \$500 of income, what is the relative price of a DisneyWorld ticket?
- a. 5 zoo tickets
  - b. \$5
  - c. 20 zoo tickets
  - d. \$100
26. Tickets to DisneyWorld are normal goods while tickets to the local zoo are inferior goods. This implies that an increase in the price of tickets to the local zoo would do which of the following?
- a. Increase real income and increase the quantity of DisneyWorld tickets purchased
  - b. Increase the relative price of DisneyWorld tickets and decrease the quantity of DisneyWorld tickets demanded
  - c. Result in a substitution effect and an income effect that both decrease the quantity of local zoo tickets demanded
  - d. Result in an income effect that increases the quantity of local zoo tickets demanded and a substitution effect that decreases the quantity of local zoo tickets demanded.

The table below shows cost information for different levels of output produced. Use this information to answer the following 3 questions.

Quantity	AFC	AVC	ATC	MC
10	10			
20		6		
30				5
40	2.5			10
50		8		

27. The firm's fixed cost of production is equal to \_\_\_\_, implying that the firm is operating in the \_\_\_\_ run.
- \$0; long
  - \$100; long
  - \$10; short
  - \$100; short
28. What is the average total cost for producing 20 units of output?
- \$6
  - \$120
  - \$5
  - \$11
29. If the firm operates in a perfectly competitive market where the market equilibrium price is \$11, what level of output will maximize profit, and what level of profit will the firm earn?
- The firm will produce 20 units of output and earn profit of \$0.
  - The firm will produce 40 units of output and earn profit of \$70.
  - The firm will produce 50 units of output and earn profit of \$80.
  - The firm will produce 0 units of output and earn profit of -\$10.
30. If a perfectly competitive firm is currently producing 100 units of output where  $MR < AVC$  and  $MR = MC$ , what should the firm do to maximize profit?
- Shut down
  - Reduce output but not shut down
  - Increase output
  - The firm is already maximizing profit
31. When a firm in a perfectly competitive industry is earning negative economic profit, which of the following must be true?
- The resources the firm uses to produce would have a higher value if used in an alternative activity.
  - There are no fixed costs of production because the firm is operating in the long run.
  - The price the firm is charging for output is above the firm's average total cost of production.
  - Firms in other markets will begin to enter the industry.

CESC is a monopoly provider of electricity in the city of Kolkata in India. The demand curve and marginal cost curve faced by this firm are given below. The monopoly is a single price monopoly. Use this information answer the following 2 questions.

$$\text{Demand: } Q^d = 600 - 12P$$

$$\text{Marginal cost: } MC = Q + 15$$

32. Which of the following equations represents marginal revenue curve for the firm?
- $P = (-1/12)Q^d + 50$
  - $P = (-1/6)Q^d + 50$
  - $P = (-1/12)Q^d + 600$
  - $P = (-1/6)Q^d + 600$
33. What is the profit maximizing level of output and price for the monopolist?
- $Q^* = 30$ ;  $P^* = \$47.50$
  - $Q^* = 35$ ;  $P^* = \$47.08$
  - $Q^* = 40$ ;  $P^* = \$55$
  - $Q^* = 40$ ;  $P^* = \$46$
34. The level of output produced by a single price monopolist that maximizes profit is \_\_\_\_\_ the level that satisfies allocative efficiency, implying that deadweight loss from monopoly is a result of \_\_\_\_\_.
- Above; overproduction
  - Below; underproduction
  - Above; underproduction
  - Below; overproduction
35. A natural monopoly maximizes profit by producing 100 units of output at a price of \$25 per unit. If this monopoly were regulated with marginal cost pricing, which of the following would you expect to see as a result?
- Price will fall below \$25
  - Profit will rise
  - Profit will fall but will still be positive
  - None of the above
36. A firm in monopolistic competition is currently producing 5,000 units of output at a price of \$10 per unit of output. At that level of output, marginal cost is equal to \$10 and profit is equal to \$100. What should the firm do to maximize profit?
- Nothing. It is already maximizing profit.
  - Shut down
  - Increase output
  - Reduce output (but not shut down)

37. Firms in perfect competition, monopoly, and monopolistic competition all maximize profit in the long run where
- $P=ATC$
  - $P=MR$
  - $MB=MC$
  - $MR=MC$
38. A firm in monopolistic competition produces with “excess capacity” in the long run because
- The firm could increase output and increase its profit but chooses not to
  - The firm could increase output and reduce average costs of production but chooses not to
  - The firm could decrease output and increase its profit but chooses not to
  - The firm could decrease output and increase average costs of production but chooses not to
39. Which of the following is NOT a characteristic of oligopoly?
- A small number of firms
  - No barriers to entry
  - Products may or may not be differentiated
  - All of the above are characteristics of oligopoly

Eric and Donna want to take a vacation. Eric prefers to go hiking but Donna prefers to go to the beach. Eric and Donna’s utilities are given below. Use this information to answer the following 2 questions.

		Donna	
		Hiking	Beach
Eric	Hiking	<div> <div>5</div> <div>2</div> </div>	<div> <div>1</div> <div>1</div> </div>
	Beach	<div> <div>0</div> <div>0</div> </div>	<div> <div>5</div> <div>2</div> </div>

40. What is (are) the Nash equilibrium(a) of the above game?
- Eric and Donna both go hiking.
  - Eric and Donna both go to the beach.
  - Eric goes hiking and Donna goes to the beach
  - Both a and b



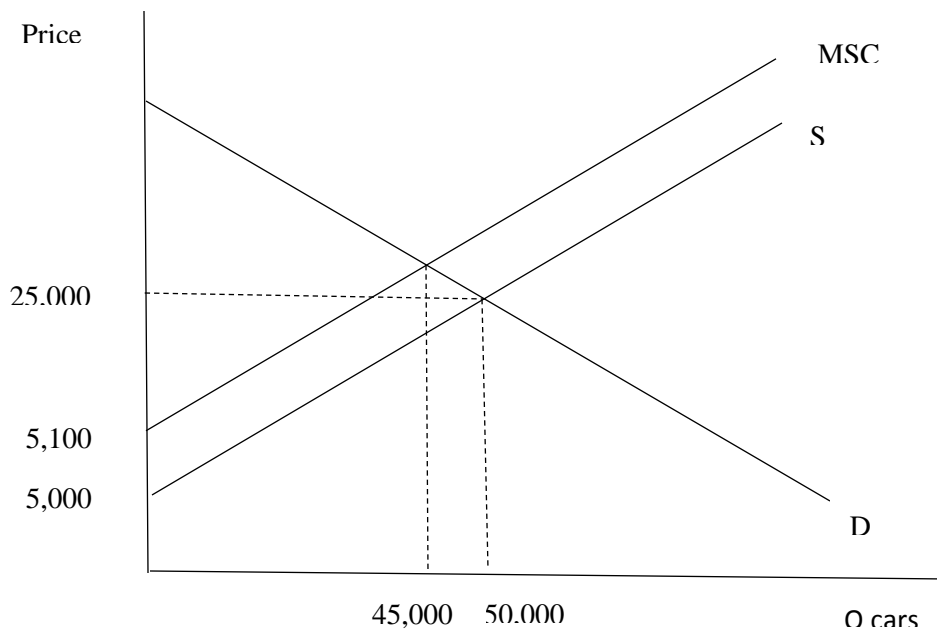
41. How are Nash equilibria and dominant strategy equilibria related?
- Every Nash equilibrium is also a dominant strategy equilibrium.
  - Every dominant strategy equilibrium is also a Nash equilibrium
  - The set of Nash equilibria is always smaller than the set of dominant strategy equilibria.
  - A dominant strategy equilibrium can never be a Nash equilibrium.

The table below provides the private marginal benefit (MB) and marginal cost (MC) associated with bouquets of flowers in the living room of two roommates, Hayden and Jasmine. Bouquets are a public good, and there are no negative external costs. Use this information and the table below to answer the following 2 questions.

Number of bouquets	Jasmine's MB	Hayden's MB	Marginal cost (\$)
1	5	18	20
2	10	10	20
3	9	7	20
4	7	5	20
5	5	2	20

42. What is the marginal social benefit of the 2nd bouquet of flowers?
- \$10
  - \$20
  - \$16.5
  - \$33
43. What is the number of bouquets that would satisfy allocative efficiency?
- 1
  - 2
  - 3
  - 4
44. When a negative production externality exists in a market, which of the following is true?
- $MC > MSC$  at the market equilibrium
  - $MSC = MSB$  at the market equilibrium
  - $MSC > MSB$  at the market equilibrium
  - $MSB > MC$  at the market equilibrium

The graph below shows demand and supply in the market for cars in Mexico. There is a constant marginal external cost associated with the use of cars that is equal to \$100. Use the graph and this information to answer the following 2 questions.



45. What is the efficient quantity of cars in Mexico?
  - a. 50,000
  - b. 45,000
  - c. Less than 45,000
  - d. More than 50,000
46. What deadweight loss results from the externality associated with cars in Mexico?
  - a. \$250,000
  - b. \$500,000
  - c. \$2,500,000
  - d. \$125,000,000
47. Which of the following is defined as being nonrival and nonexcludable?
  - a. Common resource
  - b. Private good
  - c. Public good
  - d. Natural monopoly

The table below provides incomes for a 10-person economy. Use this information to answer the following 3 questions.

Person	Income (\$)
Vanessa	90,000
Mandy	120,000
Eve	45,000
Kristen	75,000
Mike	200,000
Ed	250,000
Ryan	10,000
Kyle	15,000
Boyd	5,000
Chuck	30,000

48. Who is in the top quintile of this economy?
- Vanessa and Mandy
  - Mike and Mandy
  - Ed and Mike
  - Boyd and Ryan
49. Which of the following points would be on the Lorenz curve for this economy? (Round percentages to the nearest whole number.)
- (20,18)
  - (40,5)
  - (60,21)
  - (80,80)
50. If the incomes of Ryan and Boyd double, how would you expect the Gini ratio to change, all else equal?
- Gini ratio would increase
  - Gini ratio would decrease
  - Gini ratio would not be affected by changes in income
  - Gini ratio would increase on the lower end of the Lorenz curve but decrease on the upper end of the Lorenz curve