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***print name on the line above as your signature***

**INSTRUCTIONS:**

1. This Exam #2 must be completed within the allocated time  
(i.e., *between 6:10 PM and 7:00 PM*).  
It is a **closed book** and open mind exam. **However**, each student may have a **single 8.5"11" sheet of paper** solely containing **student authored handwritten contents**: no mechanical reproduction of any kind.
2. **Recall the material difference between i.e. (that is) versus e.g. (for example).**
3. To minimize disturbance of others still taking the exam, when you finish your exam,  
collect all of your personal items before approaching the professor  
so you can promptly exit the exam room upon your finishing the exam.
4. This Exam #2 is worth 200 of the course total of 1,000 points.  
This objective exam has 52 questions graded as if there are 50.  
Each correct answer on this Exam #2 is worth 4 course points.  
Based upon the instructor's statistical analysis of all students' answers, the instructor unilaterally may alter the grading of specific exam questions.  
Any student may appeal the grading of any other exam questions.  
However, only if a student successfully appeals the ambiguity of **AT LEAST THREE** questions on this exam does that student objectively demonstrate non-harmless error due to any ambiguities.  
Also, a successful appeal only will change *that* student's exam grade and only will do so by the number of successful appeals in excess of **TWO** successful appeals.  
*Appeals only affect the exam grades of those students that appeal.*
5. **All appeals** of this exam's questions must be:
  - [5A] typed;
  - [5B] signed by the student in three ways, typed name, handwritten signature, and typed university identification number;
  - [5C] immediately following the signature, list in sequence, *solely by number*, each of the questions being appealed;
  - [5D] after the [5C] list, argue each question, one at a time;
  - [5E] at the beginning of each question's [5D] appeal, identify two or more reasonable meanings that the question could have had;
  - [5F] argue why one or more of the [5E] identified reasonable meanings is as appropriate or is **more** appropriate than the meaning used for the answer key answer; and
  - [5G] personally handed to the instructor or to the instructor's MH 228 suite secretary no later than 6:15 PM, Monday, March 28, time is of the essence.

**NOTE: #1:**

An exam statement is not false merely because of the contents of a parenthetical comment in two contexts. First, all a.k.a. (i.e., also known as) parentheticals; and second, formulas within parentheticals merely slavishly repeat text that is outside the parentheses. Thus, if what is outside of the parenthetical is true, then what is inside is true; and if what is outside of the parenthetical is false, then what is inside is false. For other types of parentheticals the content of the parenthetical might render the exam statement false; for example, falsely an "i.e.," might be used when truth required an "e.g.,". Read carefully.

**#2:**

**Bubble A for True** and bubble B for False.

**QUESTIONS:**

1. **T F** The law of increasing opportunity costs asserts that to consume a greater amount of good ABC only can be obtained with an increasing sacrifice of good XYZ not being consumed. (1:7)
2. **T F** All of the Elements and Functions of Capitalism private property embodies self interest; prices measure self interest; markets coordinate self interest, competition regulates self interest. (1:10)
3. **T F** A change in the price of Product A causes a motion **on** the demand curve of Product A (*i.e., change in quantity demanded*); whereas a change in a non-price determinant of demand of Product A causes a motion **of** the demand curve of Product A (*i.e., change in demand*). (1:18)

4. **T F** Product "A" is a complement of Product "C" and Product "A" is a substitute for Product "S". If the price of Product "A" increases, then the quantity sold of Product "C" will increase and the quantity sold of Product "S" will decrease. (1:20)
5. **T F** Externalities (*a.k.a., spillovers*) exist when some person either is **not** willing to or is **not** able to participate in a market. Externalities prevent the market price from being a genuine equilibrium price. (1:24)
6. **T F** The principal - agent problem never exists in private corporations. The principal - agent problem always exists with government employees. (1:25)
7. **T F** Both private goods and public goods exhibit a strong characteristic of rivalry of consumption; but, only private goods exhibit a strong characteristic of exclusivity of possession. (1:28)
8. **T F** The gains from trade available from international trade are due each nation having a different absolute advantage in the total quantity of production. (1:30)
9. **T F** All tariffs and all quotas always change the market price. (1:32)
10. **T F** International trade agreements focus on changing each nation's comparative advantage. (1:33)
11. **T F** There is a list of the non-price determinants of supply and a list of the non-price determinants of demand. Those two lists share some similarities (*e.g., prices of related goods; expectations*), but those two lists also have major differences (*e.g., technology is on demand's list but taxes are on supply's list*).
12. **T F** The elasticity of demand describes the responsiveness of quantity demanded to changes in price (i.e.,  $E_d = [\% \Delta Q_d / \% \Delta P] = \{1 / \text{slope}\} P / Q$ ).

- 13. T F** Since the demand curve has a positive slope  
all elasticity of demand ( $E_d$ ) numerical values always have a positive sign.
- 14. T F** The numerical value of the elasticity of demand ( $E_d$ )  
ranges from  $E_d = 0$   
(i.e., a perfectly inelastic vertical demand curve [i.e., slope =  $\infty$ ])  
to  $E_d = \infty$   
(i.e., a perfectly elastic horizontal demand curve [i.e., slope = 0]).  
Most frequently, however,  $E_d$  values are between 0.01 and 10.0.  
An elasticity of demand value of less than one ( $E_d < 1$ ) is inelastic.  
An elasticity of demand value of more than one ( $E_d > 1$ ) is elastic.
- 15. T F** All sellers maximize total revenue at unitary elasticity  
(i.e.,  $TR_{\max}$  @  $E_d = 1$ ).
- 16. T F** Elasticity is a general concept that can be applied in a variety of ways.  
For example,  
a good's income elasticity distinguishes inferior goods from luxury goods.  
Also for example,  
the sign on the  
cross elasticity of demand (i.e.,  $E_{XY} = \% \Delta Q_{dX} / \% \Delta P_Y$ ) is  
negative for a substitute good but is positive for a complement good.
- 17. T F** Economics has multiple measures of efficiency.  
Productive efficiency  
is to produce at the good at its lowest cost (i.e.,  $P = ATC_{\min}$ ).  
Allocative efficiency  
is to produce the least costly array of goods (i.e.,  $P = MC$ ).  
There is zero dead weight loss  
if  
the firm achieves both productive efficiency and allocative efficiency.
- 18. T F** If  
the market price is the equilibrium price ( $P_e$ ),  
then  
consumers will be both willing and able to pay more,  
but do not have to, thus consumers get the consumer surplus;  
and  
producers will be both willing and able to sell for less  
but do not have to, thus producers get the producer surplus.

- 19. T F** Utils are a theoretical unit of measure for the individual's subjective value of utility.  
Dollar prices make objective that subjective value.  
In this way the inherently normative foundation of economics is transformed into a positivist fact.
- 20. T F** The law of diminishing marginal utility gives shape to the indifference curves.  
The marginal rate of substitution (MRS) is the slope of the indifference curve.  
To maximize utility the indifference curve that is tangent to the budget line is selected.  
At that point of tangency, the ratio of prices will equal the ratio of marginal utilities  
(i.e.,  $MRS = P_B / P_A = MU_B / MU_A$ ).  
And, with algebraic transformation, we can obtain the general rule for optimization:  
 $MU_A / P_A = MU_B / P_B$ .
- 21. T F** A demand curve can be derived from the indifference curves and their tangent budget lines.  
These also allow us to see the income effect and the substitution effect.  
The income effect is that a change in a product's price is experienced as a change in real income.  
The substitution effect is that a change in a product's price changes the relative prices (i.e., *opportunity costs*) of substitutes and thus shifts the substitute's demand curve.
- 22. T F** Sunk costs are opportunity costs.
- 23. T F** Accounting strives for objectivity by focusing upon explicit costs  
(e.g., *arms' length transactions*).  
Economics strives for a different type of objectivity by focusing upon both explicit costs (e.g., *wages*) and implicit costs (e.g., *normal profit*).

- 24. T F** Normal profit is the value necessary to attract and to keep entrepreneurial ability. The necessary mathematical relationship between accounting profit ( $\pi_A$ ) and normal profit ( $\pi_N$ ) is that  $\pi_A < \pi_N$  because accounting profit does not include normal profit.
- 25. T F** Total cost can be viewed in more than one way. Total cost can be viewed from the perspective of the economic resources purchased (*e.g., land*), or from the perspective of the payment made for the economic resources purchased (*e.g., interest*). Total cost also can be viewed as fixed costs plus variable costs ( $TC = FC + VC$ ). Economics views the long run as starting once fixed costs equal zero ( $FC = 0$ ).
- 26. T F** Economics focuses upon marginal analysis in the long run. Since fixed costs are sunk costs, economic analysis recommends ignoring sunk costs when making a decision about what to do next.
- 27. T F** Economics assume all firm seek to profit maximize. Profit ( $\pi$ ) is equal to total revenue (TR) minus total cost (TC) (i.e.,  $\pi = TR - TC$ ),  
If  $TR < TC$ ,  
then  
the firm is earning an economic loss ( $\pi_L$ ).
- 28. T F** Economics assume all firm seek to profit maximize. To profit maximize all firms must achieve marginal revenue equals marginal cost (i.e., to  $\pi_{max}$  must achieve  $MR = MC$ ).
- 29. T F** Since total revenue equals price times quantity (i.e.,  $TR = P * Q$ ), the Shut Down Rule can be stated while focusing either on TR or on price.  
If  $TR < VC$   
or if  $P < AVC$ ,  
then  
the firm will minimize its losses by exiting the market;  
otherwise,  
to minimize its losses the firm must remain in the market and earn  $\pi_L$ .

- 30. T F** Routinely, when graphing a firm's supply curve the supply curve is labeled as its marginal cost curve ( $S = MC$ ). However, the firm's MC curve is much longer than its S curve. The firm's S curve only is that fraction of the firm's MC curve that is above the firm's minimum AVC.
- 31. T F** All average values (*e.g.*, *cost*; *product*) are optimized at the quantity where the marginal curve intersects the average curve (*e.g.*,  $ATC_{\min} @ ATC = MC$ ).
- 32. T F** All total values (*e.g.*, *cost*; *revenue*) are optimized at the quantity where the marginal curve intersects the horizontal axis (*e.g.*,  $TR_{\max} @ MR = 0$ ).
- 33. T F** If  $E_d = 1$ , then  $MR = 0$ .
- 34. T F** Both the law of diminishing marginal utility and economies of scale both are applicable both in the short run and the long run.
- 35. T F** Economies of scale exist if all inputs are increased proportionally and if total costs do not increase less proportionally; thus, average total costs decline.
- 36. T F** Breakeven for an economist means  $TR = TC$ , and thus the firm earns a normal profit ( $\pi_N$ ). The economist's breakeven is the same as breakeven as used in accounting and in finance.

- 37. T F** If a Firm #1 currently inside Market A is earning and expects to continue to earn a normal profit ( $\pi_N$ ) but if Firm #1 looks into Market B and sees that Firm #1 can expect to earn an economic profit (i.e.,  $\pi_E$  when  $TR > TC$ ) upon entry in to Market B, then Firm #1 will exit Market A and will enter Market B.
- 38. T F** If a Firm #1 inside of Market A has earned and expects again to earn an economic loss (i.e.,  $\pi_L$  when  $TR < TC$ ), then Firm #1 will exit Market A.
- 39. T F** In a purely competitive market the industry's market price will be the equilibrium price ( $P_e$ ) and thus will clear the purely competitive industry's market (i.e.,  $S = D$ ).
- 40. T F** In a purely competitive market all firm's sell at the industry's market equilibrium price:  $P_e$ .
- 41. T F** In a purely competitive market all firm's profit maximize at each firm's  $MR = MC$ .
- 42. T F** In a purely competitive market all firms sell at the allocative efficiency price of  $P_e = MC$ .
- 43. T F** In a purely competitive market the industry sells at, but fewer than all firms sell at, the productive efficiency price of  $P_e = ATC_{min}$ .
- 44. T F** In a purely competitive market the industry will profit maximize.
- 45. T F** In a purely competitive market the competitive industry sells at unitary elasticity and thus maximizes total revenue.
- 46. T F** In a pure monopoly market the monopoly firm does not confront any close substitutes as competitors.
- 47. T F** Barriers to entry can create monopoly power; but, not all markets with major barriers to entry contain monopolists.

- 48. T F** In a pure monopoly market the monopoly firm sets quantity so that  $MR = MC$ . This quantity also maximizes the monopolist's total revenue.
- 49. T F** All monopolists earn an economic profit.
- 50. T F** If a seller sells to two different buyers at two different prices, then that is economic price discrimination.
- 51. T F** A seller can not engage in effective price discrimination unless that seller has monopoly power, the ability to segregate buyers according to their elasticities of demand, and the ability to prevent arbitrage.
- 52. T F** Both multinational corporations outsourcing jobs and illegal immigration are arbitrage.

**ANSWER KEY: Exam #2: ECON 2200: Spring 2011**

1. true.
2. FALSE.
3. true.
4. true.
5. true.
6. FALSE.
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51. true.
52. true.