
print name on the line above as your signature
INSTRUCTIONS:

1. This Comprehensive Final Exam must be completed within the allocated time (i.e., *between 6:30 PM and 8:30 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. **Answer keys will be available when the last student finishes the exam.**
4. This Comprehensive Final Exam is worth 400 of the course total of 1,000 points. This objective exam has 105 questions graded as if there are 100. Each correct answer on this Comprehensive Final Exam 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 SIX** 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 **FIVE** 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 3:00 PM, Friday, May 6, 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 decreasing opportunity costs asserts that to consume a greater amount of good ABC only can be obtained with a decreasing sacrifice of good XYZ not being consumed. (1:7 and 2:1)
2. **T F** All of the Elements of Capitalism and all of the Functions of Capitalism are private property embodies self interest; prices measure self interest; markets coordinate self interest, competition regulates self interest. (1:10 and 2:2)
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 and 2:3)

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" decreases, then the quantity sold of its complement Product "C" will increase and the quantity sold of its substitute Product "S" will decrease. (1:20 and 2:4)
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 assure that the market contains all needed participants and thus also assure that the market price is the genuine equilibrium price. (1:24 and 2:5)
6. **T F** The principal - agent problem can exist, but rarely does exist, inside private corporations. The principal - agent problem always exists with government employees. (1:25 and 2:6)
7. **T F** It is feasible for both private goods and public goods to exhibit both a strong characteristic of rivalry of consumption; as well as to exhibit a strong characteristic of exclusivity of possession. (1:28 and 2:7)
8. **T F** The gains from trade available from international trade are due to each nation pursuing its own absolute advantage in the total quantity of production. (1:30 and 2:8)
9. **T F** A tariff and/or a quota might or might not change market price. (1:32 and 2:9)
10. **T F** International trade agreements regularly focus on materially changing every nation's comparative advantage. (1:33 and 2:10)

- 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 non-price determinants (*e.g., technology*),
 but
 those two lists also have major differences
 (*e.g., tastes are on demand's list but taxes are on supply's list*). (2:11)
- 12. T F** The elasticity of demand describes
 the responsiveness of quantity demanded to changes in price
 (*i.e., $E_d = [\% \Delta Q_d / \% \Delta P] = [1 / \text{slope}] P / Q_d$*). (2:12)
- 13. T F** Since the demand curve has a negative slope
 all elasticity of demand (E_d) numerical values always has a negative sign.
 (2:13)
- 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 = ∞]*)
 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. (2:14)*
- 15. T F** At unitary elasticity a seller maximizes total revenue
 (*i.e., $TR_{\max} @ E_d = 1$*). (2:15)
- 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., $E_{XY} = \% \Delta Q_{dX} / \% \Delta P_Y$*)
 for a substitute good is positive. (2:16)
- 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.
 (2:17)

- 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. (2:18)
- 19. T F** Utils are a theoretical unit of measure for the individual's objective value of utility. Dollar prices make subjective that objective value. In this way the inherently normative foundation of economics is transformed into a positivist fact. (2:19)
- 20. T F** The law of increasing 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 demand curve that is parallel 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:
 $MU_A / P_A = MU_B / P_B$. (2:20)
- 21. T F** An indifference curve can be derived from the demand curve parallel to the 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 nominal income. The substitution effect is that a change in a product's price changes the absolute prices (i.e., *opportunity costs*) of substitutes and thus shifts the substitute's demand curve. (2:21)
- 22. T F** All opportunity costs are sunk costs; but, less than all sunk costs are opportunity costs. (2:22)

- 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*).
(2:23)
- 24. T F** Normal profit is the value necessary to attract and to keep entrepreneurial ability. The necessary mathematical relationship between accounting profit and normal profit is that $\pi_A > \pi_N$ because accounting profit only includes implicit costs paid to third parties. (2:24)
- 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
($FC = 0$). (2:25)
- 26. T F** Economics focuses upon marginal analysis in the long run. Since fixed costs are costs the firm already is committed to, and thus are sunk costs, economic analysis recommends ignoring sunk costs when making a decision about what to do in the future. (2:26)
- 27. T F** From the perspective of economics, profit (π) is equal to total revenue (TR) minus total cost (TC)
(*i.e.*, $\pi = TR - TC$);
If
 $\pi = TR - TC$
then
the firm is earning a normal profit.
But, if
 $TR < TC$,
then
the firm is earning an economic loss (π_L). (2:27)

- 28. T F** Economics assumes all firms seek to profit maximize.
To profit maximize all firms must achieve
marginal revenue equals marginal cost
(i.e., to π_{\max} must achieve $MR = MC$). (2:28)
- 29. T F** Since total revenue equals price times quantity demanded
(i.e., $TR = P * Q_d$),
the Shut Down Rule
can be stated while either focusing on TR or focusing 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 π_L .
(2:29)
- 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 genuine MC curve tends to be longer than its genuine S curve.
The firm's genuine S curve
is only that fraction of
the firm's genuine MC curve that is above the firm's minimum AVC.
(2:30)
- 31. T F** All total values (e.g., *cost*; *product*) are optimized at the quantity
where
the marginal curve intersects the total curve
(e.g., $TC_{\max} @ TC = MC$). (2:31)
- 32. T F** All average values (e.g., *cost*; *revenue*) are optimized at the quantity
where
the average curve intersects the horizontal axis
(e.g., $AR_{\min} @ AR = 0$). (2:32)
- 33. T F** If
 $E_d = 1$,
then
 $MR = 0$. (2:33)

- 34. T F** Both the law of increasing marginal utility and economies of scale are applicable only in the short run; neither is applicable in the long run. (2:34)
- 35. T F** Economies of scale exist if all inputs are increased proportionally and then total costs decrease less than proportionally; thus, average total costs decline. (2:35)
- 36. T F** Breakeven for an economist means $TR = TC$, and thus the firm earns a normal profit (π_N). The economist's breakeven is not the same as breakeven as used either in accounting or in finance. (2:36:)
- 37. T F** If a Firm #1 currently is inside Market A and has earned and expects to continue to earn a normal profit (π_N) but if Firm #1 looks into Market B and sees that Firm #1 can expect to earn an economic profit (i.e., π_E when $TR > TC$) upon entry in to Market B, then Firm #1 will exit Market A and will enter Market B. (2:37)
- 38. T F** If a Firm #1 inside of Market A has earned and expects again to earn an economic loss (i.e., $TR < TC$ thus π_L), then immediately Firm #1 will exit Market A. (2:38)
- 39. T F** In a purely competitive market the industry's market price is the equilibrium price (P_e) and thus the purely competitive industry's market is cleared (i.e., $S = D$). (2:39)
- 40. T F** In a purely competitive market all firms only sell at the industry's market equilibrium price: P_e . (2:40)

- 41. T F** In a purely competitive market
all firms sell at each firm's $MR = MC$;
but,
each purely competitive firm only earns a normal profit. (2:41)
- 42. T F** In a purely competitive market
all firms sell at the allocative efficiency price of $P_e = MC$. (2:42)
- 43. T F** In a purely competitive market
all firms sell at the productive efficiency price of $P_e = ATC_{min}$. (2:43)
- 44. T F** In a purely competitive market the competitive industry profit maximizes.
(2:44)
- 45. T F** In a purely competitive market
the competitive industry sells at unitary elasticity and thus
maximizes total revenue. (2:45)
- 46. T F** In a pure monopoly market
the monopoly firm does not confront any close substitutes as competitors.
(2:46)
- 47. T F** Barriers to entry
might create monopoly power;
but,
not all markets with major barriers to entry contain monopolists. (2:47)
- 48. T F** In a pure monopoly market
the monopoly firm sets quantity supplied so that $MR = MC$.
This quantity also maximizes the monopolist's total revenue. (2:48)
- 49. T F** A monopolists can not earn an economic loss
because
the monopolist controls price. (2:49)
- 50. T F** If
a seller sells to three different buyers at three different prices,
then
that is economic price discrimination. (2:50)

- 51. T F** For a seller to engage in effective price discrimination the seller must have monopoly power, must segregate buyers according to their elasticities of demand, and must prevent arbitrage. (2:51)
- 52. T F** Both multinational corporations outsourcing jobs and illegal immigration are seeking to arbitrage of labor. (2:52)
- 53. T F** One of the Elements of Capitalism is government. Its Function is to facilitate private property, prices, markets, and competition via defining rights (*e.g., property, contracts, torts, and crimes*) and via setting transaction costs. (1:10 and 2:2)
- 54. 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 demand of its complement Product "C" will decrease as well as the quantity demanded of its substitute Product "S" will increase. (1:20 and 2:4) [**Hint:** graph it and think.]
- 55. T F** All private goods exhibit a strong characteristic of rivalry of consumption; and a strong characteristic of exclusivity of possession. (1:28 and 2:7)
- 56. T F** The gains from trade available from international trade are due to monopolist firms capturing the producer's surplus. (1:30 and 2:8)
- 57. T F** International trade agreements focus on reciprocal reductions in absolute costs of trade. (1:33 and 2:10)
- 58. T F** The non-price determinants of supply are the mirror image of the non-price determinants of demand. (2:11)

- 59. T F** Elasticity is a general concept that can be applied in a variety of ways. For example, a good's income elasticity distinguishes substitute goods from complementary goods. (2:16)
- 60. T F** If $\pi_A < \pi_N$, then π_L . (2:24)
- 61. T F** In a purely competitive market no purely competitive firms sell at, but competitive industry does sell at, the productive efficiency price of $P_e = ATC_{\min}$. (2:43)
- 62. T F** In a purely competitive market the competitive industry will maximize total revenue at $MR = 0$. (2:44)
- 63. T F** In a pure monopoly market the monopoly firm sets price so that $MR = MC$. (2:48)
- 64. T F** If a seller with identical marginal costs for selling to every buyer sells at two or more different prices, then that is economic price discrimination. (2:50)
- 65. T F** Product differentiation is a common characteristic of an industry with monopolistic competition.
- 66. T F** Because industries with monopolistic competition often have easy entry and easy exit the firms in that industry, in the long run, tend to earn a normal profit.
- 67. T F** An industry that is an oligopoly tends to exhibit economies of size or other entry barriers.
- 68. T F** Oligopolies tend to generate the creation of cartels; but, cartels tend to collapse due to cheating, Oligopolies tend to have a kinked demand curve. The kink in the demand curve tends to be where $LRATC_{\min}$.
- 69. T F** Typically, the demand for labor is a derived demand.

- 70. T F** Social optimization can be identified by several metrics. For example, the socially optimal production exists when either the marginal revenue product is equal to the marginal resource cost, that is, $MRP = MRC$, or the marginal benefit is equal to the marginal cost, that is, $MB = MC$.
- 71. T F** When the output effect of a decrease in the price of an input is added to the substitution effect of a decrease in the price of that input, then the net effect is positive.
- 72. T F** The producer's least cost rule, in the long run, asserts that the optimal combination of inputs exists when the ratios of the inputs' marginal products to the inputs' prices are equal (e.g., $MP_A / P_A = MP_B / P_B$). The reasoning is similar to the rule for the equality of the ratios of outputs' prices to marginal costs (e.g., $P_A / MC_A = P_B / MC_B$).
- 73. T F** Nominal wages might rise or might fall; but, real wages either are constant or rise.
- 74. T F** Differences in the marginal productivity of labor solely are due to changes in characteristics of the individual that are totally controllable by the individual. Thus, per the producer's least cost rule it is moral, right, and just that the compensation of a USA corporation's CEO, on average, is more than 400 times larger than the compensation of the lowest paid full-time employee of that same corporation.
- 75. T F** A firm that is the sole purchaser of a special labor skill as well as the sole seller of an output with no close substitutes is both a monopsonist and a monopolist.

- 76. T F** Clearly, the optimal governmental response to an industry with bilateral monopoly is private ownership of each of the facing monopolies, and no governmental regulation.
- 77. T F** Because market failures are rare, because the principal - agent problem is rare, and because irrational discrimination is rare, the market wage of each employee's labor equals that employee's marginal revenue product.
- 78. T F** Henry George argued that all land is a free good, therefore, all economic rents are mere land rents that morally belong to the owner of the private property.
- 79. T F** The highest and best use of land is that use which offers the owner the highest short run accounting profit.
- 80. T F** Since expectations are a non-price determinant of both supply and demand the current market price accurately reflects the present value of all future value streams.
- 81. T F** The world's population explosion (*e.g., tripling over last century*) is primary due to a birth explosion.
- 82. T F** The most important metrics for the environment are the economist's efficiency measures based upon resource consumption per capita.
- 83. T F** Since expectations are a non-price determinant of both supply and demand all short run and all long run opportunity costs are included in current market prices.
- 84. T F** Public goods are so rare as to be merely of theoretical interest and just as rarely can any governmental action improve upon market results.

- 85. T F** The law of diminishing marginal returns prevents the marginal costs of governmental action from ever equaling the marginal benefits of governmental action.
- 86. T F** Positive externalities are much more frequent than negative externalities.
- 87. T F** Coase's Theorem asserts that an initial allocation of resources can be profoundly unequal and yet the market always will generate the most efficient results.
- 88. T F** Majority voting always yields more efficient outcomes than does cumulative voting.
- 89. T F** A common hallmark of the principal - agent problem is a proposal by the agent that involves clear benefits and hidden costs.
- 90. T F** The tax liability might or might not be the tax incidence. For measuring efficiency the tax incidence, not the tax liability, is important.
- 91. T F** The Herfindahl - Hirsh Index (i.e., $HHI = \sum m_i^2$) has many uses. One use of the HHI is to measure whether price fixing is lawful.
- 92. T F** If an industry is a natural monopoly, then the optimal solution is a privately owned monopoly subject to governmental regulation.
- 93. T F** Optimal social regulation requires $MB = MC$. Which measures of the MB and of the MC are the correct measures is a positivist question rather than normative question.
- 94. T F** The demand for food is elastic.
- 95. T F** The agriculture industry is dominated by stagnant technology.

- 96. T F** Ideally,
government regulation both addresses and solves the causes
of market failure
rather than
government regulation either addresses or solves the symptoms
of market failure.
- 97. T F** Over the last several decades in the USA
absolutely,
the rich have gotten richer
and
the poor have gotten richer;
however,
the rich have gotten richer faster and by a large amount
than
the poor have gotten richer.
Accordingly,
relatively, the poor have gotten poorer.
- 98. T F** The Pareto Principle (*i.e., top 20% generate 80% of the total output*)
when applied to
the Lorenz Curve and its Gini Coefficient
and
when coupled with the law of diminishing marginal returns
as well as a fixed set of workers
means that
managers are more likely to achieve a doubling of the firm's total output
by focusing managerial efforts on
the bottom 80% rather than the top 20%.
- 99. T F** Employment discrimination
has at least three consequences:
reduces the wages of the persons against whom discrimination is practiced
and
increases the wages of the persons benefiting from the discrimination
and
prevents an efficient allocation of labor within the market.
- 100.T F** In most insurance policies the
moral hazard
is managed by requiring
the insurED to pay a deductible and to pay a co-pay up to the stop loss.

- 101. T F** InsurERs routinely seek to profit maximize by striving to minimizing adverse selection while simultaneously striving to maximize discriminating against potential insurEDs via inverse adverse selection.
- 102. T F** For many decades, in the USA, all humans who arrive at a hospital's emergency room, by constitutional and statutory law, the hospital is required to provide all medical care necessary to end the emergency, which means that the health policy of the USA for many decades has been a combination of the worst form of adverse selection and the worst form of moral hazard.
- 103. T F** The wages received in the USA by immigrant workers from Mexico have no impact on the national income of Mexico.
- 104. T F** Since, in the long run, economics theorizes that the P_e will adjust so that all MP_i / P_i are equal for all wages across all countries, the outsourcing of jobs from the USA has much to do with avoiding workplace safety regulations and/or avoiding environmental regulations. The nominal wage rates in the USA are high, but, if theory is correct, the real wages are identical. Accordingly, outsourcing often is much more about arbitraging safety and the environment than arbitraging labor.
- 105.** Countries A through Z purchase an aggregated total of \$50 of good #1. Only Country A and Country B make good #1. Country A can make 100 units of good #1 and Country B can make 10 units. Country A's average total cost is \$5 per unit and Country B's average total cost is \$1 per unit.
- T F** Because of Country A's absolute advantage and Country B's comparative advantage, Country A will earn an economic profit as a monopolist on the sale of the eight units.