

EC 301
Prof. F. Tsoulouhas
Sample Second Exam

Name _____

SSN _____

Each question is 4 points.

1. An isoquant
 - A. must be linear.
 - B. cannot have a negative slope.
 - C. is a curve that shows all the combinations of inputs that yield the same total output.
 - D. is a curve that shows the maximum total output as a function of the level of labor input.
 - E. is a curve that shows the minimum labor necessary for a level of output.

2. When labor usage is at 12 units, output is 36 units. From this we may infer that
 - A. the marginal product of labor is 3.
 - B. the total product of labor is $1/3$.
 - C. the average product of labor is 3.
 - D. none of these.

3. When the average product is decreasing, marginal product
 - A. equals average product.
 - B. is increasing.
 - C. exceeds average product.
 - D. is decreasing.
 - E. is less than average product.

4. According to the law of diminishing returns
 - A. the total product of an input will eventually be negative.
 - B. the total product of an input will eventually decline.
 - C. the marginal product of an input will eventually be negative.
 - D. the marginal product of an input will eventually decline.
 - E. none of these.

5. The rate at which one input can be reduced per additional unit of the other input, while holding output constant, is measured by the
- A. marginal rate of substitution.
 - B. marginal rate of technical substitution.
 - C. slope of the isocost curve.
 - D. average product of the input.
6. A production function in which the inputs are perfectly substitutable would have isoquants that are
- A. convex to the origin.
 - B. L-shaped.
 - C. linear.
 - D. concave to the origin.
7. A firm's marginal product of labor is 3 and its marginal product of capital is 5. If the firm adds one unit of labor, but does not want its output quantity to change, the firm should
- A. use five fewer units of capital.
 - B. use 0.6 fewer units of capital.
 - C. use 1.67 fewer units of capital.
 - D. also add 1.67 units of capital.
8. Increasing returns to scale in production means
- A. more than twice as much of all inputs is required to double output.
 - B. less than twice as much of all inputs is required to double output.
 - C. more than twice as much of only one input is required to double output.
 - D. isoquants must be linear.
9. Studies have indicated that the output rate in the steel industry (Q) can be depicted as follows:
- $$Q = L^{.43} K^{.12} M^{.28}$$
- where L is the quantity of labor, K is the quantity of capital, and M is the quantity of materials. This production function exhibits _____ returns to scale.
- A. diminishing
 - B. decreasing
 - C. constant
 - D. increasing
 - E. none of these

Use the following information:

The total cost to produce dolls is given as follows:

$$TC = 100 + 2Q + Q^2$$

where Q is the quantity of dolls produced.

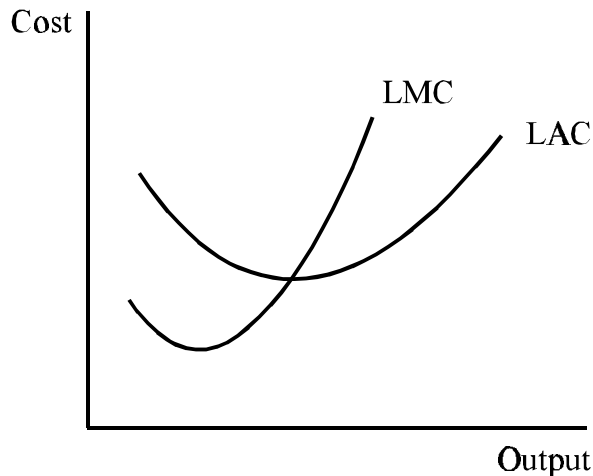
10. The total cost curve above is
 - A. a short run total cost curve.
 - B. a long run total cost curve.
 - C. none of these

11. The variable cost curve is
 - A. 100
 - B. $2Q + Q^2$
 - C. $(100/Q) + 2 + Q$
 - D. $2 + 2Q$
 - E. none of these

12. The average total cost curve is
 - A. 100
 - B. $2Q + Q^2$
 - C. $(100/Q) + 2 + Q$
 - D. $2 + 2Q$
 - E. none of these

13. In a short-run production process, the marginal cost is rising and the average total cost is falling as output is increased. Thus, marginal cost is
 - A. below average total cost.
 - B. above average total cost.
 - C. between the average variable and average total cost curves.
 - D. below average fixed cost.

14. A firm employs 100 workers, each at \$10 per hour, and 50 units of capital, each at \$21 per hour. The marginal product of labor is 3 and the marginal product of capital is 5. The firm
- is producing its current output level at the minimum cost.
 - could reduce the cost of producing its current output level by employing more capital and less labor.
 - could reduce the cost of producing its current output level by employing more labor and less capital.
 - could increase its output at no extra cost by employing more capital and less labor.
 - could reduce the cost of producing its current output level by employing more capital and less labor AND could increase its output at no extra cost by employing more capital and less labor.



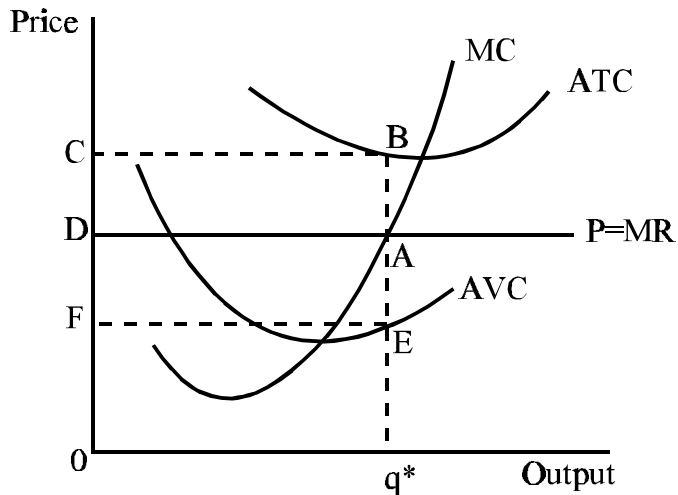
15. The LAC and LMC curves in the diagram above are consistent with a production function that exhibits
- decreasing returns to scale.
 - constant returns to scale.
 - increasing returns to scale.
 - increasing returns to scale for small levels of output, then constant returns to scale, and eventually decreasing returns to scale as output increases.
 - decreasing returns to scale for small levels of output, then constant returns to scale, and eventually increasing returns to scale as output increases.

16. For a competitive firm, marginal revenue is
- equal to both price and average revenue.
 - equal to price but greater than average revenue.
 - greater than average revenue and less than price.
 - less than price.

17. A firm will shut down in the short run when:
- price is less than average total costs.
 - price is less than average variable costs.
 - total revenues are less than total variable costs.

Which of the above is correct?

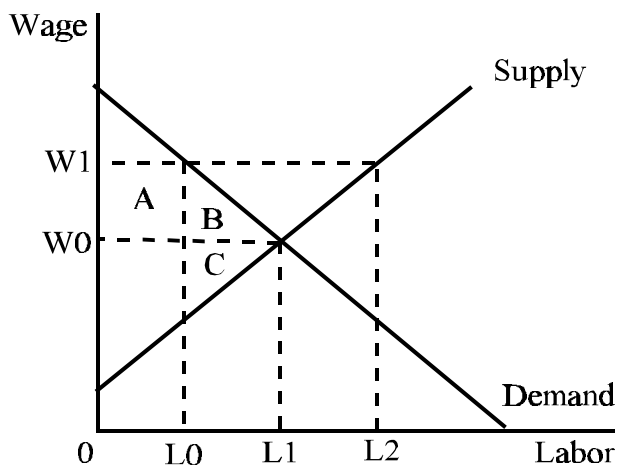
- 1 only
- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2, and 3



18. A competitive firm is producing at output q^* shown above. At output q^* , the firm:
- earns a profit equal to $OCBq^*$.
 - incurs a loss equal to $OFEq^*$.
 - incurs a loss equal to $FDAE$.
 - incurs a loss equal to $DCBA$.
 - incurs a loss equal to $FCBE$.

19. The competitive firm's short-run supply curve is the
- A. average cost curve above the minimum of the marginal cost curve.
 - B. marginal cost curve above its minimum point.
 - C. marginal cost curve above the minimum of the average total cost curve.
 - D. marginal cost curve above the minimum of the average variable cost curve.
20. The long-run supply curve for a constant cost industry is a(n)
- A. horizontal line at a price equal to the long-run average variable cost of production.
 - B. horizontal line at a price equal to the long-run minimum average total cost of production.
 - C. upward-sloping line.
 - D. horizontal line at a price equal to the minimum average variable cost of production.
21. In an unregulated, competitive market, producer surplus exists because some
- A. consumers are willing to pay more than the equilibrium price.
 - B. producers are willing to take more than the equilibrium price.
 - C. producers are willing to sell at less than the equilibrium price.
 - D. consumers are willing to purchase, but only at prices below equilibrium price.

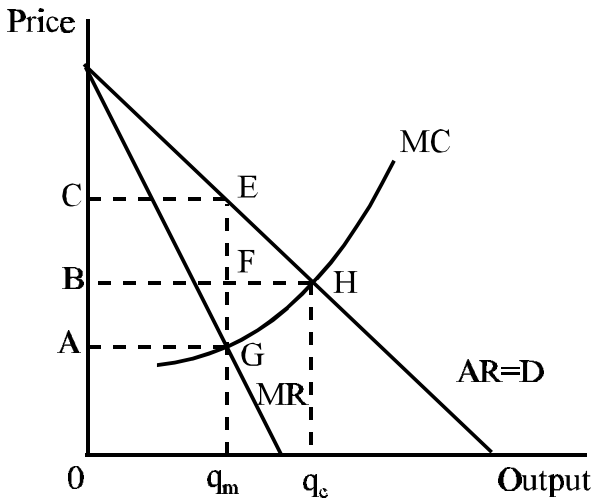
Use the following diagram:



The market clearing wage is W_0 . Suppose that a minimum wage is enacted at W_1 .

22. The level of employment after the minimum wage is enacted is:
- L_0 .
 - L_1 .
 - L_2 .
 - none of these.
23. The level of unemployment after the minimum wage is enacted is:
- $L_2 - L_0$.
 - $L_2 - L_1$.
 - $L_1 - L_2$.
 - zero.
 - none of these.
24. The deadweight loss that results from the minimum wage is given by:
- area A.
 - area B.
 - area C.
 - area A + B + C.
 - none of these.

Use the following diagram:



25. At output Q_m , the monopolist's total revenue is:
- ODEQ_m.
 - OCEQ_m.
 - ACEG.
 - OAGQ_m.
 - none of these.
26. At output Q_m , the monopolist's total cost is:
- ODEQ_m.
 - OCEQ_m.
 - ACEG.
 - OAGQ_m.
 - none of these.
27. At output Q_m , and assuming that the monopoly has set her price to maximize profit, the consumer surplus is:
- CDE.
 - BDEF.
 - ADEG.
 - ODEQ_m.
 - none of these.

28. The monopolist has no supply curve because
- A. the quantity supplied at any particular price depends on the monopolist's demand curve.
 - B. the monopolist's marginal cost curve changes considerably over time.
 - C. the relationship between price and quantity depends on both marginal cost and average cost.
 - D. there is a single seller in the market.
 - E. although there is only a single seller at the current price, it is impossible to know how many sellers would be in the market at higher prices.

Use the following information:

The marginal cost of a monopolist is constant and is \$10. The demand curve and marginal revenue curves are given as follows:

$$\text{demand: } Q = 100 - P$$

$$\text{marginal revenue: } MR = 100 - 2Q$$

29. The profit maximizing level of output is
- A. 30
 - B. 35
 - C. 40
 - D. 45
 - E. 50
30. Third-degree price discrimination involves
- A. charging different prices to different individuals based upon their elasticities of demand.
 - B. charging lower prices the greater the quantity purchased.
 - C. the use of increasing block rate pricing.
 - D. charging different prices to different groups based upon differences in elasticity of demand.