SMU
SINGAPORE MANAGEMENT UNIVERSITY

Economics & Society
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Homework 3

Due on 5/9/2023, by 23:00

This assignment is optional but STRONGLY RECOMMENDED. If you do not submit the answers till the deadline, the score of your final exam will substitute for the score for this assignment. Submit only the correct letter for each task on eLearn under 'Quizzes' within 'COR2100-Economics and Society G7-8-26-49'. Note that the actual text of questions and answers is not supposed to appear on the eLearn quiz. You have unlimited attempts. The system is programmed to credit your last attempt. Be informed that if you submit an attempt and afterwards you re-open the quiz, you must submit your answers AGAIN. Otherwise, the system will grade the unfinished attempt with 0 (because it is the last one) and there is NOTHING I can do to fix this after the fact. Late homework or homework submitted outside eLearn cannot be accepted as this would violate SMU official policy for fairness and transparency in grading. This assignment is protected by Grade Insurance™: If the assignment's average turns out to be below 75, an equal amount of bonus points will be given to every work, for the average to become 75. Direct any homework questions to your TA.

1. Which of the following is most accurate about the AC, AVC and MC curves in the short-run period?
   A. MC cuts AC at its minimum.
   B. MC cuts AC at its maximum.
   C. MC is always above the AVC.
   D. MC is always below AVC.

2. Which of the following products is LESS likely to be homogeneous among different brands?
   A. Paper straws.
   B. Salt.
   C. A 55" smart TV.
   D. Lemons.

3. Which of the following is true for the distance between AC and AVC as production increases?
   A. It remains constant.
   B. It decreases.
   C. It increases.
   D. At first it increases and after some point it decreases.
   E. At first it decreases and after some point it increases.

4. Which of the following is most likely to represent a firm's cost function?
   A. $C = 500 - 2q$.
   B. $C = 30 + 6\sqrt{q}$.
   C. $C = 1000 + 50/Q$.
   D. All of the above.

5. Which of the following is true about sunk costs in economic decision making?
   A. They should always be taken into consideration.
   B. They should never be taken into consideration.
   C. They should only be taken into consideration if they can be recovered.
   D. They should only be taken into consideration if they are fixed.
   E. They should only be taken into consideration if they are variable.

6. Which of the following is considered to be a characteristic of a PC market?
    A. Some firms can influence the market price, while others cannot.
    B. Firms' market share has no influence on price.
    C. Small firms can sell their product at a higher market price.
    D. Big firms can sell their product at a higher market price.

7. Suppose that a delivery firm's cost for insuring its vehicles increases from $1,000 to $1,200 per vehicle. Which of the following is accurate?
    A. MC will increase.
    B. AVC will decrease.
    C. Both AVC and MC will increase.
    D. None of the above.

8. Which of the following is true for a firm in the S-R, as long as MC is above AC curve?
    A. The firm experiences Increasing Returns to Scale.
    B. The firm experiences Diminishing Returns to Scale.
    C. The firm experiences Constant Returns to Scale.
    D. None of the above.

9. Which of the following factors of production is more likely to be variable for a firm?
    A. Capital.
    B. Labor.
    C. Land.
    D. Entrepreneurship.

10. Which of the following is true regarding a profit maximizing firm in a PC market?
    A. It sets its price equal to its marginal cost.
    B. Its marginal revenue is equal to the market price.
    C. Both A and B.
    D. None of the above.

Scenario 3.1: A firm can produce 60,000 bottles with 4 alternative combinations of capital (K) and labor (L): (i) 120K and 40L; (ii) 100K and 60L; (iii) 70K and 50L; or (iv) 50K and 70L.

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11. According to scenario 3.1, which of the following is accurate?
    A. Combination (i) is economically less efficient than (ii).
    B. Combination (ii) is economically less efficient than (iii).
    C. Combination (iii) is economically less efficient than (iv).
    D. None of the above is accurate.

12. According to scenario 3.1, if the per unit cost of capital is 40 and the per unit cost of labor is 30, which of the following combinations is the most economically efficient?
    A. (i).
    B. (ii).
    C. (iii).
    D. (iv).

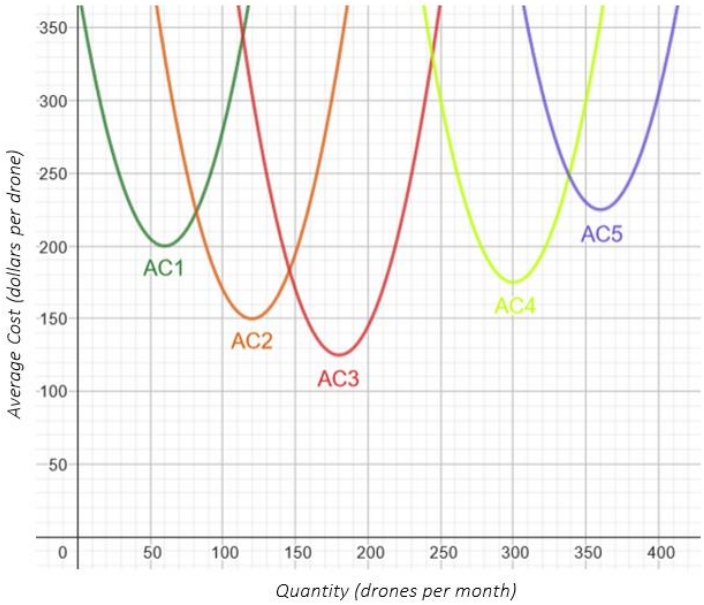

Figure 3.1: The S-R average cost curves for 5 different scales of production for a firm that produces drones.

13. According to figure 3.1, how much is firm's long-run average cost if the output is 300 drones per month?
    A. Around $100.
    B. Around $125.
    C. Around $150.
    D. Around $175.
    E. Around $200.

14. Suppose that the firm in figure 3.1 has committed to scale AC5 and later turns out that the monthly demand is around 320 drones. Which of the following is true?
    A. The firm experiences Constant Returns to Scale.
    B. The firm experiences Increasing Returns to Scale.
    C. The firm experiences Diminishing Returns to Scale.
    D. We have no sufficient information to answer.

15. According to figure 3.1, over which of the following ranges of production does the firm face Economies of Scale?
    A. From 0 to 150 drones per month.
    B. From 150 to 250 drones per month.
    C. From 250 to 350 drones per month.
    D. From 350 drones per month and above.

16. According to figure 3.1, which of the following could explain firm's LAC between 200 and 300 drones per month?
    A. Ineffective communication between managers and employees.
    B. Firm can order larger quantities of raw materials at a lower price.
    C. Firm needs more capital to increase workers' productivity.
    D. Firm needs more workers to increase existing capital's productivity.

q	MC	VC
1	30	30
2	26	56
3	20	76
4	24	100
5	30	130
6	42	172
7	53	225

Table 3.1: quantity (q), MC and VC for a PC firm.

17. Refer to table 3.1. If the market price is $24, which of the following is most likely for this firm, if cost conditions do not change?
    A. To keep operating.
    B. To shut down immediately.
    C. To exit the market in the long-run.
    D. We need information about firm's fixed cost to answer.

18. Refer to table 3.1. If the fixed cost of the firm is $20 and the market price is $42, which of the following is most likely for this firm if cost conditions do not change?
    A. To keep operating.
    B. To shut-down in the short-run.
    C. To exit the market in the long-run.
    D. We need information about firm's fixed cost to answer.

19. Refer to table 3.1. If the fixed cost is $20, for which price will the maximum profit for the firm be zero in the long-run?
    A. Around $20.
    B. Around $25.
    C. Around $30.
    D. Around $40.
    E. Around $50.

20. Refer to Table 3.1. If fixed cost is $20 and the market price is $53, how much is the profit for the firm?
    A. Around $100.
    B. Around $125.
    C. Around $150.
    D. Around $175.
    E. Around $200.

Good afternoon! "A student struggles for 20 minutes on a single task on the homework. He works as hard as he can, and finally he decides to pick C. After a few days, while checking the answer key, he realizes that the correct answer was in fact B. Reading the solution, he understands why but he feels frustrated and disappointed. He worked so hard and he still lost the 5 points from this task. He believes that his entire effort went to waste. A few weeks later, he comes across a similar question in the exam. It takes him only a few seconds to figure out what the correct answer is. Now, he is experienced, he has learned from his mistake, he will not fall into the same trap for the second time. How could he, after how he felt last time? When the exam is over, it comes in his mind that the 5 homework points he previously lost will worth just 0.05% of his final grade. The answer he nailed during the exam, though, is at least 4%. It seems to him that this amounts to a return on investment of 8,000%! Now, it does not sound like a bad deal to him." There is no better investment in life than learning from your mistakes. *Kosmas*