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Part I: Say true if the statement is correct and false if the statement is incorrect (1 pt. each)

1. The type of cost which will not change with the level of output is called variable cost.
2. In stage II of production period the variable input is over employed and the fixed input is underutilized.
3. Under Ordinal Utility theory, indifference curve has convex curvature due to diminishing marginal rate of substitution.
4. A decrease in price of a commodity shifts the budget line upwards.
5. In the short run, the firm will maximize profit by producing the output at which marginal revenue equals marginal cost and marginal cost is rising.
6. Efficient region of production is over that range of employment of variable input where the marginal product of the variable input is declining but positive.
7. Average fixed cost (AFC) always decreases as production increases and it will never be zero
8. Marginal product increases as long as marginal cost increases and vice versa.
9. Long run is a period that makes possible the change in all inputs to change volume of production
10. Unlike economic costs, accounting cost incorporates implicit costs in to account in the calculation of total costs.

Part II: Choose the best answer from the given alternatives (1.5 pt. each)

1. If $MRS_{xy} = -2$, it means;
   A. The consumer is willing to give up two units of Y for one more unit of X
   B. The consumer is willing to give up two units of X for one more unit of Y
   C. The consumer is not willing to give any amount of good X
   D. None
2. The reason for the existence of monopoly is;
   A. Patent right and legal barriers
   B. Control over essential raw materials
   C. Economics of scale
   D. All

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3. Under perfectly competitive market structure
   A. Individual firm can increase its total revenue by increasing price for its product
   B. There is no difference between the market and individual firm's demand curve
   C. Marginal revenue of a firm increase as its output increases
   D. Average revenue of a firm doesn't change as the firm change its output
   E. All

4. Suppose a consumer purchases a combination of commodities X and Y such that MU_x/P_x equals 20 utils per dollar, and MU_y/P_y equals 10 utils per dollar. According to cardinal utility theory, in order to achieve consumer equilibrium the consumer should purchase:
   A. Less of Y and more of X
   B. More of Y and less of X
   C. More of both Y and X
   D. Less of both Y and X

5. The hypothesis of Diminishing Marginal Utility states that
   A. The less of a commodity one is consuming, the less the additional utility obtained by an increase in units consumed
   B. The more of the commodity one is consuming, the more the additional utility obtained by an increased consumption
   C. The more of the a commodity one is consuming, the less the additional utility obtained by an increase in its consumption
   D. The more a commodity one is consuming, the less total utility will be
   E. Marginal utility cannot be measured , but total utility can

6. Technical relationship between inputs and output is called _____
   A. Production function
   B. Law of variable proportion
   C. Returns to the scale
   D. Cost function

7. In a perfectly competitive market, each firm's demand curve coincident with the
   A. Average revenue curve
   B. Marginal revenue curve
   C. Horizontal line drawn at the market price
   D. All of the above
   E. None of the above

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8. Marginal rate of substitution (MRS) in consumption theory measures;
   A. The rate at which one input substitutes the other
   B. The rate at which utility is diminishing
   C. The rate at which one commodity is exchanged for the other
   D. B & C E. None
9. Economically efficient/optimal region of production is happens in the range of
   A. $MP_L > AP_L$, & $MP_L = 0$ C. $MP_L > AP_L$, & $AP_L = 0$
   B. $AP_L > MP_L$, & $MP_L = 0$ D. MP_L is negative
10. Which of the following is correct about oligopoly?
   A. It sells homogenous or differentiated product
   B. Each seller has command over a sizable proportion of the total market supply
   C. It is a market structure with many buyers and few sellers
   D. All of the above
11. When marginal utility is in the negative range, which one is true about total utility
   A. It is decreasing and negative C. It is decreasing and positive
   B. It is increasing and positive D. All could be possible answers
12. Marginal cost of production (MC)
   A. Is minimum when total output is maximized
   B. Will tend to fall over time as output raises
   C. Is always below total average cost of production
   D. It is an extra cost per unit of additional output produced
13. At the point where the budget line is tangent to an indifference curve
   A. Equal amount of food give equal satisfaction
   B. The ratio of prices of the goods must equal to the marginal rate of substitution
   C. The prices of the goods are equal
   D. A household cannot be maximizing its satisfaction
   E. The marginal rate of substitution is zero

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14. Identify the **correct** statement

A. firm should not operate in stage III because in this stage additional units of variable input are contributing negatively to the total product

B. Stage I is not an efficient region of production because the variable input is too small to efficiently run the fixed input.

C. Efficient region of production is over that range of employment of variable input where the marginal product of the variable input is decreasing but positive.

D. All of the above

15. Which one of the following is valid about the relationship between TP, AP & MP

A. When total product is maximum, marginal product is zero.

B. When MP equals AP, AP reaches its minimum.

C. Whenever MP of the variable input is less than AP, the AP increases.

D. Whenever MP>AP, AP decreases

16. Suppose that the prices of good X and good Y both double, and income triples. On a graph where the budget line is drawn with X on the horizontal axis and Y on the vertical axis.

A. The budget line becomes steeper and shifts inward

B. The budget line becomes flatter and shifts outward

C. The budget line becomes flatter and shifts inward

D. The new budget line is parallel to the old budget line and lies below it

E. The new budget line is parallel to the old budget line and lies above it

17. Which of the following statements is not true in a perfectly competitive market?

A. A firm's marginal revenue equals price

B. A firm's average total cost is equal to price in the long run

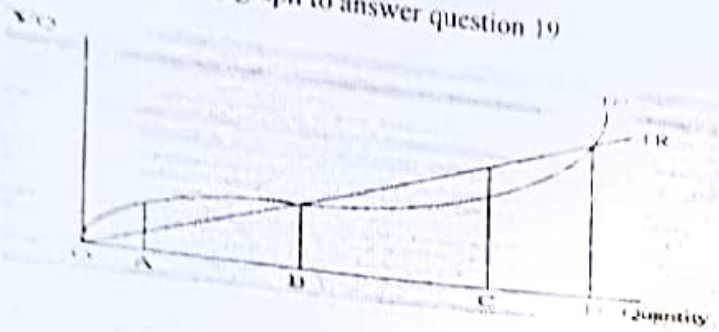
C. A firm's average fixed cost rises in the short run

D. Large firms have lower total costs than small firms

. If you know that with 8 units of output, average fixed cost is 12.50$ and average variable cost is 81.25$, then total cost at this output level is:

A. 93.75$ B. 97.78$ C. 750$ D. 650$

Use the following graph to answer question 19



19. In the above diagram profit is maximized at point

A. A B. B C. C D. D

20. For a consumer using a single commodity (X). how much total consumption budget is required at equilibrium to purchase the good at P level of market price

A. P*X B. MU*P C. MU*X D. A and B

Part III: - Work out (6 points)

1. Assume a firm faces a short-run demand and cost functions as

$Q = 6 - 0.2P$ and **$TC = 20 + 4Q^2 - 6Q$**

A. Determine the optimal level of output and price assuming that the firm operates in a perfectly competitive market **(2 points)**

B. What is the level of profit/loss? **(2 points)**

C. Calculate the level of output at shutdown point. **(2 points)**

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