Date: 10.09.2018

Indian Institute of Technology Bombay
Department of Humanities & Social Sciences
HS 101: ECONOMICS (MICRO MID-SEMISTER EXAM)

I. Choose the Correct Answer. Each Question Carries Equal Marks (22x0.5 =11 MARKS)

1. A firm whose average total cost continually declines at least to the quantity that could supply the entire market is known as a
a. perfect competitor.
b. natural monopoly.
c. government monopoly.
d. regulated monopoly.

2. A rational person does not act unless
a. the action makes money for the person.
b. the action is ethical.
c. the action produces marginal costs that exceed marginal benefits.
d. the action produces marginal benefits that exceed marginal costs.

3. Which of the following will not shift a country's production possibilities frontier outward?
a. an increase in the capital stock
b. an advance in technology
c. a reduction in unemployment
d. an increase in the raw materials

4. Economic models are
a. created to duplicate reality.
b. built with assumptions
c. usually made of wood and plastic.
d. useless if they are simple.

5. Economic growth is depicted by
a. a movement along a production possibilities frontier toward capital goods.
b. a shift in the production possibilities frontier outward.
c. a shift in the production possibilities frontier inward.
d. a movement from inside the curve toward the curve.

$\frac{\Delta Q}{\Delta P}$

$q\,dp + p\,dq =$

6. An inferior good is one for which an increase in income causes a(n)
a. increase in supply.
b. decrease in supply.
c. increase in demand.
d. decrease in demand.

7. In general, a steeper supply curve is more likely to be
a. price elastic.
b. price inelastic,
c. unit price elastic.
d. none of the above.

8. If an increase in the price of a good has no impact on the total revenue in that market, demand must be
a. price inelastic.
b. price elastic.
c. unit price elastic.
d. all of the above.

9. If consumers always spend 15 percent of their income on food, then the income elasticity of demand for food is
a. 0.15.
b. 1.00.
c. 1.15.
d. 1.50.

$P = KQ$

$dP = K\,dQ$

10. **Accounting profit is equal to total revenue minus**
a. implicit costs.
b. explicit costs.
c. the slim of implicit and explicit costs.
d. marginal costs.

11. **If a production function exhibits diminishing marginal product, its slope**
a. becomes flatter as the quantity of the input increases.
b. becomes steeper as the quantity of the input increases.
c. is linear (a straight line).
d. could be any of the above.

$\Delta O / \Delta i$

$P \; \Delta i / \Delta O$

12. **When marginal costs are below average total costs,**
a. average fixed costs are rising.
b. average total costs are falling.
c. average total costs are rising
d. average total costs are minimized.

13. **If, as the quantity produced increases, a production function first exhibits increasing marginal product and later diminishing marginal product, the corresponding marginal cost curve will**
a. slope upward.
b. be U-shaped.
c. slope downward.
d. be flat (horizontal).

14. **In the long run, if a very small factory were to expand its scale of operations, it is likely that it would experience**
a. economies of scale.
b. constant returns to scale.
c. diseconomies of scale.
d. an increase in average total costs

15. **The efficient scale of production is the quantity of output that minimizes**
a. average total cost.
b. marginal cost.
c. average fixed cost.
d. average variable cost.

16. **Which of the following is a variable cost in the short run?**
a. wages paid to factory labor
b. payment on the lease for factory equipment
c. rent on the factory
d. interest payments on borrowed financial capital

P Q

17. **Which of the following is *not* a characteristic of a competitive market?**
a. There are many buyers and sellers in the market.
b. The goods offered for sale are largely the same.
c. Firms can freely enter or exit the market.
d. Firms generate small but positive economic profits in the long run.
e. All of the above are characteristics of a competitive market.

18. **If a competitive firm doubles its output, its total revenue**
a. more than doubles.
b. doubles.
c. less than doubles.
d. None of the above.

19. **The competitive firm maximizes profit when it produces output up to the point where**
a. marginal cost equals total revenue.
b. marginal revenue equals average revenue.
c. marginal cost equals marginal revenue.

d. price equals average variable cost.

20. In the long run, some firms will exit the market if the price of the good offered for sale is less than

a. marginal revenue.

b. marginal cost.

c. average revenue.

d. average total cost.

21. In long-run equilibrium in a competitive market, firms are operating at

a. the minimum of their average-total-cost curves.

b. the intersection of marginal cost and marginal revenue.

c. their efficient scale.

d. zero economic profit.

e. all of the above

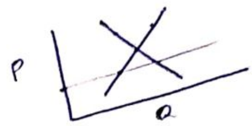
22. Trade-offs are required because wants are unlimited and resources are

a. efficient.

b. economical

c. scarce.

d. unlimited.



II. Each True/False Questions Carries Equal Marks (18x0.5 = 09 MARKS)

21. Rational people act only when the marginal benefit of the action exceeds the marginal cost. T

22. Points outside the production possibilities frontier are attainable but inefficient. F

23. An increase in the price of steel will shift the supply of automobiles to the right. F

24. When the price of a good is below the equilibrium price, it causes a surplus. F

25. The market supply curve is the horizontal summation of the the individual supply curves. T

26. If the cross-price elasticity of demand between two goods is positive, the goods are likely to be complements. T

27. If the income elasticity of demand for a bus ride is negative, then a bus ride is an inferior good. T

28. The income elasticity of demand for luxury items, such as diamonds, tends to be large (greater than one). F

29. If there are implicit costs of production, accounting profits will exceed economic profit. T

30. Fixed costs plus variable costs equal to total costs. T

31. Average total costs are total costs divided by marginal costs. F

32. The efficient scale for a firm is the quantity of output that minimizes marginal cost. F

33. A firm maximizes profit when it produces output up to the point where marginal cost equals marginal revenue. T

34. If marginal cost exceeds marginal revenue at a firm's current level of output, the firm can increase profit if it increases its level of output. F

35. A competitive firm's long-run supply curve is the portion of its marginal cost curve that lies above its average-variable-cost curve. F

36. In a competitive market, both buyers and sellers are price takers. T

37. In the short run, the market supply curve for a good is the sum of the quantities supplied by each firm at each price. T

38. The U-shape of the short-run average cost curve is explained by the law of variable proportions. F

III. Answer *any two* of the following Numerical: (If you answer more than two questions then only the first two will be considered

[2 x 03 = 06marks]

39. The demand function faced by a firm is $p=500 - 0.2x$ and its cost function is $C=25x - 10000$ (p = price, x = output and C= cost).Find the output at which the profit of the firm are maximum. Also find the price the firm will charge.

40. A firm has the following total cost and demand functions: $C = 1/3\ Q^3 - 7Q^2+111Q+50$, and $Q = 100 - P$. Find the profit maximizing level of output for the firm and also find profit at the same level of output.

41. Assume that the utility function of a consumer is given by $U = (q_1, q_2) = q_1q_2$. Let us suppose The price of q1 is Rs.1, the price of q2 is Rs.2 and the budget constraint of the consumer is K. What will be his demand for q_1 and q_2?

IV. Explain *any five* of the following (diagram wherever required) **[5 x 02=10 marks]**

42. (i) Production Possibility Frontier

(ii) Cobb-Douglas Production Function

(iii) MRTS (Marginal Rate of Technical Substitution)

(iv) Return to Scale

(v) Law of Variable proportion

(vi) Circular Flow Diagram

(vii) Elasticity of demand

V. Explain *any one* of the following questions **[1 x 04=04 marks]**

43. What are the three conditions that characterize a competitive market?

44. Write down the four properties of the indifference curve.

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