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DEPARTMENT OF ECONOMICS AND MANAGEMENT

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MEFI Admission Test – 12th September 2013 - Microeconomics

1. All points lying on or below a given budget constraint line
 - A. are attainable with available income.
 - B. are equally desirable.
 - C. represent market basket combinations that exhaust available income.
 - D. are described, in part, by a, b and c above.

2. If two perfect complement goods, such as a keyboard and a computer, are considered and the price of the keyboard increases, then the substitution effect of the price change will
 - A. be negative because keyboards are inferior goods.
 - B. be positive because the consumer feels poorer.
 - C. be 0 because it is impractical to have more keyboards and fewer computers.
 - D. be negative because keyboards and computers are perfect substitutes.

3. If a given input is used in two production processes that exhibit diminishing returns, and its present distribution between the two processes results in a higher marginal product in the first process, then
 - A. the second process should be completely abandoned.
 - B. a greater input should be transferred from the first to the second process.
 - C. a greater input should be transferred from the second to the first process.
 - D. without more information, no changes should be made in allocating the input.

4. If the marginal cost is 50 and the average total cost is 75, we can be sure that
 - A. the marginal cost is rising.
 - B. the average total cost is rising.
 - C. the marginal cost is falling.
 - D. the average total cost is falling.

5. Being a price-taker in a given market means that the seller
- A. charges each consumer the maximum that she will be able to pay for the product.
 - B. has no choice but to charge the equilibrium price that results from the market supply and demand curves.
 - C. takes her price from the average total cost curve.
 - D. sells her products at different prices to different costumers.
6. Under perfect competition a short-run equilibrium is efficient because at that point
- A. price will always equal the average cost of production.
 - B. accounting profits will exist but economic profits will be 0.
 - C. all operating firms will be covering their fixed cost.
 - D. the benefit from the last produced unit is exactly equal to the cost of producing that unit of output.
7. A single-price monopolist faces a demand curve with a constant slope of -5 and an intercept of 50. If price is reduced by 5 units, we can be sure that
- A. sales will increase by 5 units.
 - B. marginal revenue will decrease by 5 units.
 - C. marginal revenue will be less than it was before.
 - D. none of the previous statement is true.
8. A third-degree price discriminator will
- A. receive the same marginal revenue from each market.
 - B. still maximize profit by equating marginal cost with marginal revenue.
 - C. make more profits than an identical non-price discriminator.
 - D. make all previously stated actions.
9. A producer following the Cournot duopoly strategy assumes that competing firms
- A. treat each other's price as fixed when making an output decision.
 - B. treat each other's quantity as fixed when making an output decision.
 - C. will choose the strategy most damaging to each other.
 - D. will collude informally rather than cut price.
10. Adam Smith's "invisible hand" theory could be restated by saying that
- A. equilibrium will occur in all markets.
 - B. people will be guided by market forces to reach their highest happiness.
 - C. competitive market equilibrium will trigger Pareto preferred moves.
 - D. competitive market equilibrium will be Pareto optimal.

Macroeconomics

1. In the short run, if aggregate demand increases, equilibrium output will

- A. increase by the same amount
- B. increase more than aggregate demand
- C. increase less than aggregate demand
- D. remain unchanged

2. *Ceteris paribus*, the income multiplier in an open economy

- A. has the same value as that of a closed economy
- B. is smaller than that of a closed economy
- C. is larger than that of a closed economy
- D. is equal to 1

3. If the money supply is increased, then *ceteris paribus*

- A. the rate of interest will go to zero
- B. the rate of interest will increase
- C. the rate of interest will remain unchanged
- D. the rate of interest will fall

4. In the IS-LM model if Government expenditure increases in the short run

- A. the rate of interest increases but output remain unchanged
- B. the rate of interest increases and output falls
- C. the rate of interest increases and output increases
- D. the rate of interest falls and output increases

5. In the IS-LM model an autonomous increase in the demand for money

- A. a rightward shift of the LM curve
- B. a leftward shift of the LM curve
- C. a rightward shift of the IS and of the LM curve
- D. a leftward shift of the IS and of the LM curve

6. In the AS-AD model a negative demand shock causes

- A. a fall in output and an increase in prices
- B. an increase in output and a fall in prices
- C. a fall in output and in prices
- D. an increase in output and in prices

7. In the AS-AD model a negative supply shock causes

- A. a fall in output and an increase in prices
- B. an increase in output and a fall in prices
- C. a fall in output and in prices
- D. an increase in output and in prices

8. According to the Phillips curve in the short run an increase in the rate of growth of the money supply causes

- A. an increase in inflation and a fall in the unemployment rate
- B. a fall in the unemployment rate with no change in inflation
- C. an increase in inflation with no change in the unemployment rate
- D. an increase in both inflation and the unemployment rate

9. The same acceleration in the money supply growth in the long run will cause

- A. an increase in inflation and a fall in the unemployment rate
- B. a fall in the unemployment rate with no change in inflation
- C. an increase in inflation with no change in the unemployment rate
- D. no change in both inflation and the unemployment rate

10. In the labor market under conditions of imperfect competition if Trade Unions' strength decreases, then

- A. equilibrium unemployment will fall
- B. equilibrium unemployment will increase
- C. equilibrium unemployment will remain unchanged
- D. equilibrium unemployment will be eliminated

Quantitative Methods for Economics and Finance

1) Which of the following inequalities has solution in the interval $[0,1)$

A $(x - 1)x \geq 0$

B $\frac{1-x}{x} \geq 0$

C $x(1-x) \geq 0$

D $\frac{x}{(1-x)} \geq 0$

2) Which of the following parabolae intersects the vertical (y) axis at the point of abscissa -3

A $y = x^2 - 9$

B $y = x^2 - 3x$

C $y = x^2 - 4x - 3$

D $y = -x^2 + 4x + 3$

3) The solution of the inequality $e^x + 3 < 0$ is

A $x < \log 3$

B $x > -\log 3$

C $x > \log(-3)$

D non-existent

4) The partial derivatives of the function $f(x, y) = -\frac{x^2}{y}$ are

A $\begin{cases} \frac{\partial f}{\partial x} = 2x \\ \frac{\partial f}{\partial y} = -\frac{1}{y^2} \end{cases}$

B $\begin{cases} \frac{\partial f}{\partial x} = -2x \\ \frac{\partial f}{\partial y} = -\frac{1}{y} \end{cases}$

C $\begin{cases} \frac{\partial f}{\partial x} = \frac{1}{y} \\ \frac{\partial f}{\partial y} = -x^2 \end{cases}$

D $\begin{cases} \frac{\partial f}{\partial x} = -\frac{2x}{y} \\ \frac{\partial f}{\partial y} = \frac{x^2}{y^2} \end{cases}$

5) Which of the following systems is impossible?

- A $\begin{cases} 2x - 2y - 6 = 0 \\ 3x + 3y + 6 = 0 \end{cases}$
- B $\begin{cases} 2x - 2y + 6 = 0 \\ -x + y - 3 = 0 \end{cases}$
- C $\begin{cases} 2x - 2y = 6 \\ -x + y + 3 = 0 \end{cases}$
- D $\begin{cases} 2x - 2y = 6 \\ -x + y - 3 = 0 \end{cases}$

6) The mode is:

- A the sum of all observations divided by the number of observations
- B the 25th percentile of observations
- C the value associated with the highest frequency
- D a measure of variability

7) In the simple regression model $Y = a + bX$, if the parameter $b > 0$ then:

- A the relationship between X and Y is negative;
- B the relationship between X and Y is constant;
- C the relationship between X and Y is positive;
- D We cannot say anything about the relationship.

8) Which among the following variables is a discrete random one ?

- A stock price
- B salary
- C number of children of a family
- D weight

9) The determinant of matrix $P = \begin{bmatrix} 3 & 1 \\ 1 & 1 \end{bmatrix}$ is

- A $\det P = 2$
- B $\det P = 4$
- C $\det P = 3$
- D $\det P = 1$

10) Given two arbitrary matrices P and Q of dimension $n \times n$

- A $\det (P + Q) = \det (P) + \det (Q)$
- B $\det (P + Q) \neq \det (P) + \det (Q)$
- C $\det (P + Q) = \det (P) - \det (Q)$
- D $\det (P + Q) = \det (P) \times \det (Q)$