

TEST CLM 2012 MEF

DISCIPLINE	NUMERO QUESITI
Microeconomia Macroeconomia	9
Matematica per l'Economia	6
Statistica Statistica Economica	6
Finanza e Finanza Aziendale Economia Intermediari Finanziari Economia Aziendale	9

- 1) In a monopoly:
 - The monopolist cannot choose the price so as to maximize profits
 - The ability to sell at a price above the unit cost is inversely correlated with the elasticity of demand
 - The output produced is equal to the social optimum
 - It is better to choose prices rather than quantities
- 2) Mario always consumes one unit of x with one unit of y . Which of the following functions describes his preferences?
 - $U(x,y) = x + y$
 - $U(x,y) = \min(x,y)$
 - $U(x,y) = \max(x,y)$
 - $U(x,y) = x + \log(y)$
- 3) The Pigouvian tax is a solution to:
 - Capital flights to fiscal paradises
 - Production below the socially optimal level in the presence of negative externalities
 - Production above the socially optimal level in the presence of negative externalities
 - Debt deflation
- 4) In the AD-AS model, an increase in money supply:
 - Has no long term effects
 - Reduces GDP in the long run
 - Increases the rate of interest in the short run
 - Has no short run effects
- 5) In a game with the following payoff matrix where player 1 has two strategies (A,B) and player 2 has two strategies (C,D):

		Player 2	
		C	D
Player 1	A	3,3	0,2

	B	1,0	3,2
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- There is no Nash equilibrium
- The only Nash equilibrium is (B,D)
- The only Nash equilibrium is (A,C)
- There are two Nash equilibria: (A,C) e (B,D)

6) Assume that the rate of growth of the money stock is constant but that nominal GDP grows by 15 percent a year. Which of the following is correct?

- Real money supply grows by 15% a year
- Real money supply declines by 15% a year
- The dynamics of real money supply cannot be determined on the basis of the available information
- None of the other answers is correct

7) When a good is normal

- The Engel curve has a negative slope
- The Engel curve is vertical
- The Engel curve has a positive slope
- The Engel curve is flat

8) Given the constant $c > 1$ and the production function F , with labor L and capital K as arguments, there are increasing returns to scale when:

- $F(cK, cL) > cF(K, L)$
- $F(cK, cL) = cF(K, L)$
- $F(cK, cL) < cF(K, L)$
- $F = \min(cK, cL)$

9) The Laffer effect implies that when the tax rate increases:

- Tax revenue always increases
- Tax revenue always falls
- Tax revenue first increases and then declines
- Tax revenue first declines and then increases

10) The domain of the function $f(x) = \ln(x^2 + 1)$ is

- all real numbers different from -1 and 1
- the real line
- all real numbers less than or equal to -1 , or greater than or equal to $+1$
- all real numbers strictly less than -1 , or strictly greater than $+1$

11) The function $h(x, y) = (x + y + 3)^2$

- does not have any stationary point
- has a local maximum at the point $x = 0, y = -2$
- has a local minimum at the point $x = 0, y = 0$
- has a straight line of stationary points

12) The function $x \rightarrow \exp(-3x + 10)$:

- is strictly increasing
- is strictly decreasing
- has a local maximum at $x = 10/3$
- has a local minimum at $x = 10/3$

13) The integral of the continuous function $x \rightarrow -3x^5$ over the interval $[-1,1]$:

- is 0
- is $1/5$
- is $-1/125$
- does not exist

14) Let A and b be a 3×3 matrix and a 3-dimensional vector, respectively; if the determinant of A is not 0, i.e. $\det A \neq 0$, then

- the system of linear equations $Ax = b$ does not have any solution
- the system of linear equations $Ax = b$ has infinitely many solutions
- the system of linear equations $Ax = b$ has a unique solution
- the system of linear equations $Ax = 0$ has infinitely many solutions

15) As x goes to $+\infty$ the function $x \rightarrow (x+1)/(x^2-10)$

- goes to $+\infty$
- goes to $-\infty$
- goes to 0
- goes to 1

16) An estimator is required to be consistent to guarantee that....

- When the sample is large enough its distribution is Gaussian
- Its variance is small
- Its expected value equals the true value of the parameter
- When the sample is large enough the estimator is 'close' to the true value of the parameter

17) The proportion of white and black balls is 0.7/0.3 in box A and 0.3/0.7 in box B, respectively. One of the two boxes is randomly chosen by tossing a fair coin, and one ball is drawn from that box. The resulting ball is black. What is the probability that this ball came

from box A?

- 0.5.
- 0.7.
- 0.3.
- 0.4.

18) Let $E\{Y|X\} = 5 + 2X - 0.5X^2$, with X a continuous variable. Suppose that X increases by a 'small' amount δ . The corresponding variation of $E\{Y|X\}$ is approximately equal to:

- 2.
- 1.5.
- 1.
- $(2 - X)\delta$.

19) The level of a confidence interval is never set to 1 because....

- The probability to incur in a type II error would be too large even if lower than one.
- In principle it could be done but only in the presence of an unusually large sample size.
- It would be in contrast with the Central Limit Theorem.
- The resulting interval would cover the whole parametric space. Hence, it would be useless.

20) The median of $X|Z$ does not depend on Z . The 75th percentile of $X|Z$ increases with Z , while the 25th percentile of $X|Z$ decreases as Z increases.

- The median of X and the median of Z are equal.
- The variability of X increases with Z .
- The distribution of X does not depend on Z .
- we cannot tell whether or not X depends on Z .

21) A random sample of 200 units is drawn from a Gaussian distribution to estimate its mean. The sample average and the sample median turn out equal to 3.2 and 2.1, respectively. It is known that the sample average is more precise than the sample median. Both are unbiased estimates of the true mean. Would you conclude that the true mean is closer to 3.2 than to 2.1?

- Yes.
- No, it is closer to 2.1.
- It cannot be said because the sample size is too small. But with a much larger sample size the statement would definitely hold true.
- No conclusion is possible.

22) Net working capital refers to:

- total assets minus fixed assets.
- current assets minus current liabilities.

- current assets minus inventories.
- current assets.

23) Plaid Pants, Inc. common stock has a beta of 0.90, while Acme Dynamite Company common stock has a beta of 1.80. The expected return on the market is 10 percent, and the risk-free rate is 6 percent. According to the capital-asset pricing model (CAPM) and making use of the information above, the required return on Plaid Pants' common stock should be ____, and the required return on Acme's common stock should be ____.

- 3.6 percent; 7.2 percent.
- 9.6 percent; 13.2 percent.
- 9.0 percent; 18.0 percent.
- 14.0 percent; 23.0 percent.

24) When the market's required rate of return for a particular bond is much less than its coupon rate, the bond is selling at:

- a premium.
- a discount.
- a premium or a discount depending on other circumstances not here specified
- face value.

25) The covariance between two securities is 42.53, while their individual standard deviations are 13.98 and 3.35, respectively. Calculate the correlation coefficient (r) of these securities.

- 0.02
- 0.82
- 1.10
- 0.91

26) A bank charges 8.5% p.a. interest on loan on a monthly reducing balance basis. What is the yearly effective rate of interest?

- 8.50% p.a.
- 9.06% p.a.
- 8.84% p.a.
- 8.71% p.a.

27) The market capitalization rate on the stock of WholesaleCorp is 10%. Its expected ROE is 12% and its expected EPS is \$5.00. If the firm's plow-back ratio (also known as earnings retention rate) is 60%, its P/E ratio will be:

- 7.14
- 14.29
- 16.67
- 22.22

28) The positive value to the firm by adding debt to the capital structure in the presence of corporate taxes is:

- Due to the extra cash flow going to the investors of the firm rather than to the tax authorities
- Due to the earnings before interest and taxes being fully taxed at the corporate rate
- Because personal tax rates are the same as corporate tax rates

- Because shareholders prefer to let financial managers choose the capital structure thus making their value independent of it

29) Depreciation and amortization expenses are:

- Part of current assets on the balance sheet.
- After-tax expenses that reduce a firm's cash flows.
- Long-term liabilities that reduce a firm's net worth.
- Non-cash expenses that cause a firm's after-tax cash flows to exceed its net income.

30) An investment of €100 generates after-tax cash flows of €50 in year 1 and €80 in year 2. The required rate of return is 10%. The net present value is closest to:

- € 30,00
- € 10,52
- € 11,57
- it depends on the expected IRR