

考試科目 | 經濟學(原修) | 考試時間 | 月 日 上午第 節

本試題共包括四大題，第一大題滿分為20分，第二大題滿分為30分，第三及第四大題滿分皆為25分。

- 一、個體經濟學中論題：滿分為20分。
請用圖形說明：在長期均衡時，即使在非完全競爭市場(imperfect market)，個別廠商的利潤亦可能為零。
- 二、個體經濟學選擇題(正確答案只有一個)：每小題滿分為3分，本大題共30分。

1. If all firms in a monopolistically competitive market are incurring economic losses, then in the long run which of the following will NOT occur?
- The firms left in the market will produce more and receive a higher price.
 - The number of sellers will decrease.
 - Demand facing firms will increase and become more inelastic.
 - Only a normal profit will be earned.
 - Exit will occur until price equals MC.
2. If the monopolist's price happens to be greater than the average variable cost but less than the average total cost, in the short run the monopolist will
- shut down to minimize the cost.
 - operate at a loss.
 - operate at an economic profit.
 - operate at a normal profit.
 - go out of business.
3. For a firm in a perfectly competitive market, total profit is at a maximum when
- marginal revenue equals demand.
 - total costs are only fixed costs.
 - marginal revenue equals marginal costs.
 - total revenue is very high.
 - total revenue equals total costs.
4. A change in supply will not be caused by
- changes in the profitability of producing other products.
 - an improvement in technology.
 - a change in the price of inputs.
 - a change in the number of producers.
 - an increase in the number of consumers.
5. If the price elasticity of demand for U.S. automobiles is higher in Europe than it is in the United States and transport costs are zero, we might expect
- the same price for autos in the United States and Europe.
 - a higher price for autos in the United States than in Europe.
 - a lower price for autos in the United States than in Europe.
 - a less profitable price for autos in the United States than in Europe.
 - a price in Europe that is less than the costs of producing the car in Europe.

考試科目	經濟學原理	類別	經濟系	考試時間	月	日	上午第	節
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6. In terms of indifference-curve analysis, a consumer can purchase any combination of goods
- on his or her budget line without spending all his or her income.
 - beneath his or her budget line without spending all his or her income.
 - outside his or her budget line without spending all his or her income.
 - on the indifference curve that is just tangent to his or her budget line.
 - on the indifference map.
7. Which of the following statements about the demand curve is true?
- It can be derived from indifference curves and budget line analysis.
 - In the real world, if price increases we can predict exactly how much the quantity demanded will drop.
 - It holds true for every individual, regardless of whether or not he or she is rational.
 - It shows the positive relationship between price and quantity demanded.
 - It predicts the direction of change in the quantity demanded, given a change in price with no margin of error.
8. Which of the following is most likely to be a negative externality?
- Cancer research
 - Highways
 - Public schools
 - Cigarettes
 - Libraries
9. The market system works efficiently only if the market price
- reflects only the direct costs created in a transaction.
 - reflects only the externalities of a transaction
 - reflects the full costs of producing and consuming a good or service.
 - reflects the full costs of producing a good but not consuming it.
 - reflects the full costs of consuming a good but not producing it.
10. If beer and pretzels are complementary goods, then an increase in the price of beer, ceteris paribus, will result in
- a decrease in the demand for pretzels.
 - a decrease in the demand for beer.
 - an increase in the demand for pretzels.
 - an increase in the quantity demanded of beer.
 - an increase in the demand for beer.

國立政治大學圖書館

三、凱因斯學派的貨幣學派對於貨幣政策應以貨幣數量或利率為目標的看法如何？貨幣當局能否同時兼顧貨幣數量與利率這兩個目標呢？以圖形分析之。（二十五分）

四、何謂菲力普曲線（Phillips Curve）？以圖形說明凱因斯學派的貨幣學派對菲力普曲線的看法。何謂停滯性膨脹（stagflation）？如何以菲力普曲線表示這種現象？

（二十五分）

國立政治大學八十五學年度大學部轉學生入學考試

經濟學系 微積分

1. Prove that for $\mu, \sigma \in \mathbb{R}$ and $\sigma > 0$, we have

$$\int_{-\infty}^{\infty} \frac{1}{\sqrt{2\pi}\sigma} \exp\left\{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2\right\} dx = 1 \quad (15\%)$$

2. $\frac{d}{dx} \int_2^{\sin x} \exp(xt) dt = ? \quad (15\%)$

3. Prove the volume formula for a ball with radius $r > 0$. (10%)

4. Find the radius of convergence for the following infinite series of

$$\sum_{n=1}^{\infty} \frac{n^n}{n!} x^n \quad (10\%)$$

5. Test the function $f(x, y) = 6xy - x^3y^2$ for maxima, minima and saddle points. Find the function's values at these points. (10%)

6. Assume that the equation $xy^2 + z^2x + 3yz = 0$ defines z as a differentiable function of the two independent variables x and y . Find $\partial z / \partial x$ at the point $(x, y, z) = (1, -2, z)$. (10%)

7. Show that the function $f(x, y) = \begin{cases} \frac{2xy}{x^2+y^2} & (x, y) \neq (0, 0) \\ 0 & (x, y) = (0, 0) \end{cases}$

is continuous at every point except the origin. (10%)

8. $y = (1+x)e^{-x}$

- (a) Find the asymptotes (5%)

- (b) Find all relative extrema (5%)

- (c) Find all inflection points and describe the concavity (10%)

- (d) Sketch the graph. (5%)