# 國立政治大學 九十四 學年度轉學生入學考試

| 考試科目 | 經濟学 | 系別 | 經濟系 | 考試時間 | 7月9日 星期六 (上)下午第二節 |
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國立政治大學圖書館

一. 選擇題 (每題 4%，共 40%)

(1) Price discrimination is considered an aspect of monopoly power because it:

A. is characteristic of the behavior of all monopolists
B. cannot be successful unless a firm can control the supply of its product
C. can only arise from collusion among firms
D. is only successful when a firm can ignore cost considerations

(2) If a commodity has a high elasticity of demand, we can conclude that:

A. the commodity's total utility is relatively high
B. marginal utility is relatively flat in the relevant range
C. marginal utility is relatively steep in the relevant range
D. the commodity's total utility is relatively low

(3) If the average product of labor is falling, which of the following should be true?

A. Fixed costs should be rising with the level of output, even though the average fixed cost could be falling or raising.
B. The marginal product of labor should be equal to or greater than the average product of labor.
C. Marginal cost could be constant within this range.
D. The marginal product of labor should be less than the average product of labor.

(4) If firms in a competitive industry are earning profits, then one would expect that in the long run:

A. the demand curve for the product will shift to the left so that the price of the of the product will fall
B. the supply curve for the product will shift to the right as new firms enter the industry, causing industry output to increase
C. there would be no change in the industry as long as P=MC for the individual firms
D. the individual firms will lower their price to discourage new firms from entering the industry

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|---|---|---|---|---|---|

國立政治大學圖書館

(5) An assumption of the Cournot-Nash model is that:

A. each firm assumes that its competitor will keep producing the original quantity
B. the demand curve faced by the duopolist is highly elastic
C. each firm assumes that its competitors will not change price
D. each firm assumes that its competitors will follow a price increase

(6) All of the following statements are false except:

A. If the aggregate expenditure curve shifts upward, the aggregate demand curve shifts downward.
B. Other things constant, a decrease in the GNP deflator will decrease the level of aggregate demand.
C. If the overall price level increases, other things constant, real national income and output will decrease.
D. If households feel that their real wealth has increased, they will save more and consume less.

(7) When the required reserve ratio is 20 percent but a bank decides to hold excess reserves, which of the following statements is true?

A. A $1000 increase in deposits will lead to a $5,000 increase in the money supply.
B. This bank is subject to Federal Reserve censor for not maintaining the proper level of reserves.
C. The banking system as a whole will create less than $5 of additional money for each $1 increase in deposits.
D. If the public decides to increase its holding of cash, the money supply multiplier could actually be five.

(8) Compared to Keynesians, monetarists tend to have greater faith in:

A. the Federal Reserve's use of discretionary monetary policy
B. the power of fiscal policy to promote real growth
C. the efficient functioning of the labor market
D. incomes policies

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|---|---|---|---|---|---|

國立政治大學圖書館

(9) A country, previously producing two goods, wine and wheat, enters into a free-trade situation in which the country exports wine and imports wheat. The expected result of this exchange will be:

A. an increase in the country's consumption of wheat but no possible increase in its consumption of wine
B. an increase in the country's expected consumption of both goods
C. an increase in the country's consumption of wine but no possible increase in its consumption of wheat
D. increased domestic production of both wheat and wine

(10) If attempts to remove an entrenched inflation have resulted in stagflation, then all of the following statements are true except:

A. the GNP gap cannot be eliminated without an increase in the money supply to shift the AD curve
B. the GNP gap can be eliminated with expansionary monetary policy, but a rightward shift of the AD curve would cause a further bout of inflation
C. the GNP gap will cause a slow reduction in wages
D. the stagflation phase will end when wages stop rising

二. (20%) 假設九二一大地震摧毀了台灣一半的資本存量, 所幸沒有任何人員傷亡. 請回答下列問題:

(1) 請利用 AD-AS 模型, 說明地震對於台灣所得, 就業, 工資, 與物價的影響.

(2) 假設爲重建受損的資本存量, 政府決定增加三千億的特別預算支出, 同時, 增加貨幣供給, 並降低利率. 請利用 IS-LM 模型與 AD-AS 模型, 說明上述政策對於台灣的所得, 就業, 工資, 與物價的影響.

三. (20%) 請利用圖形說明獨佔廠商的供給曲線所具有的特色.

四. (20%) 什麼是一個公平的賭局 (a fair game)? 一般而言, 逃避風險者是否會參加一個公平的賭局?保險是不是一種公平的賭局, 爲什麼逃避風險會有意願去買保險?

| 備考 | 試題隨卷繳交 | 039 |
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| 考試科目 | 微積分 | 系別 | 經濟系 | 考試時間 | 7月9日 星期六 上(下)午第四節 |
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國立政治大學圖書館

國立政治大學第九十四學年度轉學生招生考試

**經濟學系大學部「微積分」考題**

Summer 2005

說明

**本考試不得使用電子計算機。**

（一） 請計算 $e^{0.2}$ 的值至小數點後四位。（十分）

（二） 假設 $f(\cdot)$ 在其定義域 $(0,\infty)$ 內為連續可微分的函數、其反函數 $f^{-1}(\cdot)$ 存在且在其定義域內的值均不為零、$a>0$。請計算 $\frac{d}{dx} f^{-1}(x)a^x \ln x$。（十分）

（三） 已知 $a$、$b$、$x$、$y$ 等數均為正值的實數，請問當 $\rho \to -\infty$ 時，生產函數 $Q=\left[ax^{\rho}+by^{\rho}\right]^{1/\rho}$ 的等產量線會是什麼樣子？（提示：本題可以用嚴格證明的方式回答，也可以用概念性說明並輔以圖形的方式來回答。十分）

（四） $\lim_{x\to\infty} \frac{x\cdot 2^x}{e^x}$ ？（如極限值存在，請求出其值，如極限值不存在，請證明。十分）

（五） $\forall j \in \{1,2,\cdots,n\}$，$x_j>0$。請證明算術平均大於幾何平均，亦即

$$\frac{1}{n}\sum_{j=1}^{n} x_j \geq \sqrt[n]{\prod_{j=1}^{n} x_j}$$

（提示：可轉換成某種形式的求極值問題。十分）



| 備考 | 試題隨卷繳交 | 040 |
|---|---|---|

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|---|---|---|---|---|---|

國立政治大學圖書館

(六)(30%), 10% for each

If the total cost function (per month) of a hand-craft firm is defined as

$$TC(y) = \int MC(y)dy = VC(y) + FC$$

where $y$ is the output level

$TC$ is Total cost

$MC$ is marginal cost

$VC$ is variable cost

$FC$ is fixed cost

(i) If the $MC(y) = \frac{y^2}{4} - 5y + 30$, what is $TC$ function?

(ii) Now the market price is NT$21,000, and the firm's profit-maximizing output is $y$=18, and its profit is NT$62,000, what is $FC$?

(iii) If the market demand jumps to 20, how will the firm respond to maximize the profit?

(七)(20%) 10% for each

Bank A borrows NT$500,000,000 from Bank B at 6% annual rate for *overnight* loan for 3 days.

(i) Now, what is interest rate payment that Bank A should pay to Bank B if the interest is counted with a *simple discrete* interest rate? (Please write out formula or its approximation).

(ii) How if the interest is with a *continuously compound* rate? (Please derive the formula or calculate its approximation).