第一部分，個體經濟學, 單選題，每小題 5 分，合計 50 分。

1. A plant uses machinery and waste water to produce steel. The owner of the plant wants to maintain an output of 10,000 tons a day, even though the government has just imposed a $100 per gallon tax on using waste water. The reduction in the amount of waste water that results from the imposition of this tax depends on
   A) the amount of waste water used before the tax was imposed
   B) the cost to the firm of using waste water before the tax was put in place
   C) the marginal product of waste water only
   D) the ratio of the marginal product of waste water to the marginal product of machinery

2. General Motors estimates that U.S. demand for its newest product will be: Qus = 30,000 - 0.5P. Export demand will be Qex = 25,000 - 0.5P. The total market demand curve for this product will be a
   A) straight line with a slope of -0.5.
   B) straight line with a slope of -1.0.
   C) kinked line with the kink at Q = 25,000.
   D) kinked line with the kink at P = 50,000.

3.

Input A	Total Output	Total Revenue	Total Cost
0	0	$0	$0
1	3	$30	$30
2	6.5	$65	$60
3	10.5	$105	$90
4	13	$130	$120

Using table above, suppose that the price of the output fell to $7. The profit-maximizing level of output would be:
   A) 3 units
   B) 6.5 units
   C) 10.5 units
   D) zero units

4. The substitution effect of an increase in the wage will
   A) increase leisure, regardless of whether leisure is a normal or inferior good.
   B) increase leisure only if leisure is a normal good.
   C) decrease leisure, regardless of whether leisure is a normal or inferior good.
   D) decrease leisure only if leisure is a normal good.

5. According to Figure 1, the loss of consumer surplus from being a monopoly market rather than a competitive market is:
   A) $65
   B) $39
   C) $24
   D) $48

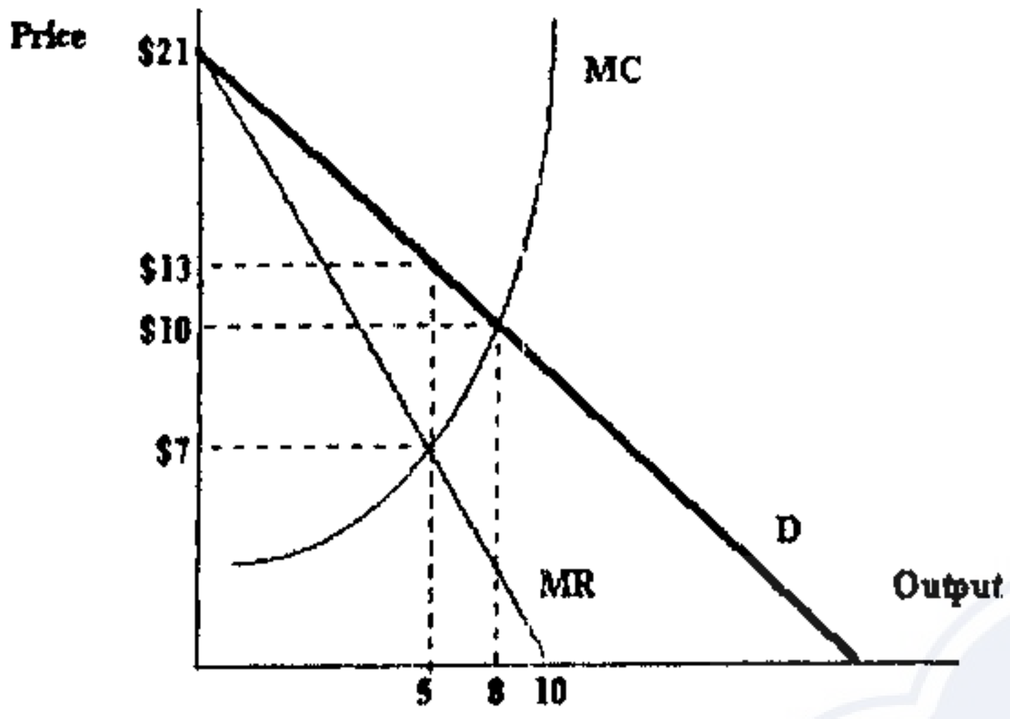

Figure 1

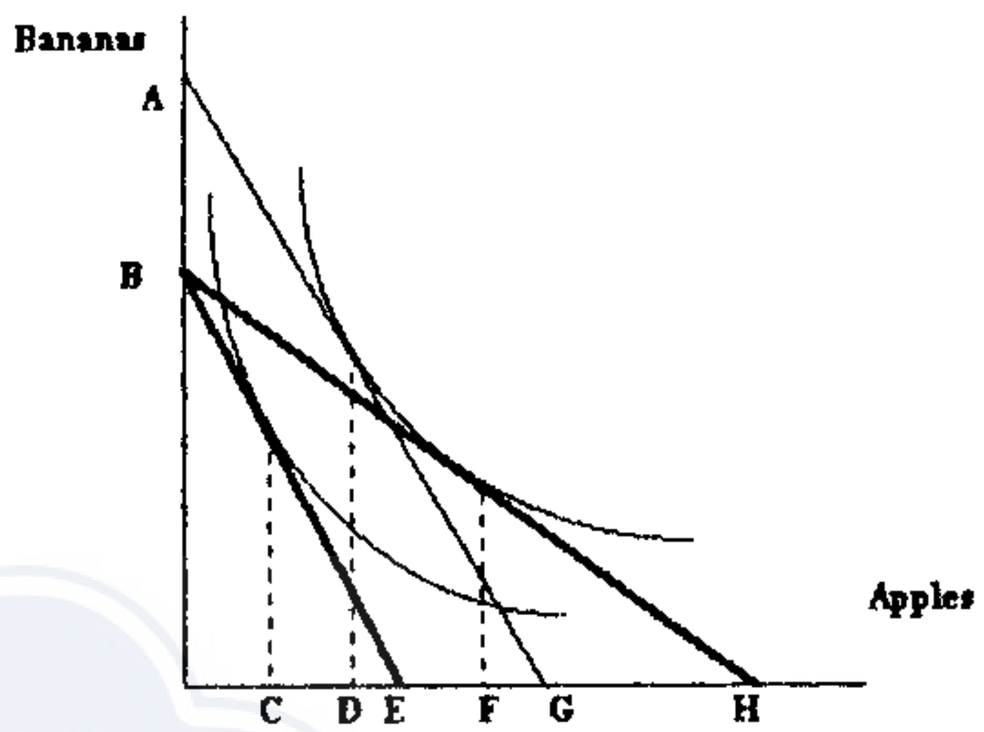

Figure 2

6. Using Figure 2, given the shift in the quantity of apples demanded from F to C, apples:
   A) are a Giffen good
   B) are an inferior good
   C) are an elastic good
   D) are a normal good

7. Lisa is sick of working as a jazz musician and decides to open a boutique. As a jazz musician she earned $15,000 a year. If the boutique closed, she could sell the cash register for $100. After paying employees, suppliers, etc, Lisa store has $50,000 leftover. Her economic profit is:
   A) $50,000
   B) $35,000
   C) $35,100
   D) $49,900

8. Consider a constant-slope production possibility frontier with a vertical intercept of 40 guns and a horizontal intercept of 60 tons of butter. The opportunity cost of increasing butter output from 30 to 31 tons is
   A) 1/2 gun.
   B) 2/3 gun.
   C) 1 gun.
   D) 1 1/2 guns

3-3

國立政治大學九十 學年度轉學生入學考試命題紙 第 3 頁

考試科目	經濟學原理	系別	經濟系	考試時間	7月7日 星期六 上午/下午 第二節

9. Paul runs a shop that sells printers. Paul is a perfect competitor and can sell each printer for a price of $800. The marginal cost of selling one printer a day is $600; the marginal cost of selling a second printer is $700; and the marginal cost of selling a third printer is $860. To maximize his profit, Paul should sell
   A) one printer a day.
   B) two printers a day.
   C) three printers a day.
   D) more than three printers a day.

10. Given that the total market demand for Cds is Q = 10 - P. If the production technology has constant marginal cost of $3, the price for the good in a market with Cournot Duopoly will be:
   A) $7
   B) $14
   C) $5.33
   D) none of the above

二、試述古典學派、凱因斯學派、貨幣學派、及理性預期學派對貨幣數量、產出、及物價水準的看法。(25分)

三、為對抗經濟不景氣，政府應如何執行財政政策？如何執行貨幣政策？凱因斯學派對貨幣學派對經濟穩定政策的看法如何？何謂財政政策的所得排擠效果？貨幣政策的存款擴張乘數效果？(25分)

備　　考	試　題　隨　卷　繳　交

Part A:

1.Find the limits:

(a) $\lim_{x \to 0} \frac{1}{\sin x} - \frac{1}{x}$ (b) $\lim_{x \to \infty} (\ln x)^{\frac{1}{x}}$ (12%)

2. Evaluate the integrals:

(a) $\int_{2}^{3} \frac{dx}{x(x+3)^2} dx$ (b) $\int_{-\infty}^{-1} xe^{-x^2} dx$ (12%)

3. (a)Let f(x,y)= $\frac{\sqrt{y+1}}{x+2}$, list the function's domain and range and describe the level curve in the domain.

(b)Show that $\lim_{(x,y) \to (0,0)} \frac{xy + y^3}{x^2 + y^2}$ does not exist. (10%)

4. Find the value of $\int_{0}^{3} \int_{\sqrt{\frac{x}{3}}}^{1} e^{y^3} dy dx$ by evaluating an equivalent integral with the order of integration reversed. (6%)

5. Find the volume of the solid in the first octant bounded by the surface $z = 9 - x^2 - y^2$ and the coordinate plane. (10%)

考試科目	微積分	系別	經濟系	考試時間	7月7日上 星期六 ⑪

Part B:

1. Find the solution of x_1, x_2, and x_3 in the following equation system: (10%)

$$7x_1 - x_2 - x_3 = 0$$
$$10x_1 - 2x_2 + x_3 = 8$$
$$6x_1 + 3x_2 - 2x_3 = 7$$

2. Find $\partial y/\partial x$ for the equation $F(y,x,w) = y^3x^2 + w^3 + yxw - 3 = 0$. What's the derivative value of $\partial y/\partial x$ at the point (1,1,1)? (10%)

3. Let the $R(Q) = 1200Q - 2Q^2$, $C(Q) = Q^3 - 61.25Q^2 + 1528.5Q + 2000$, what's the profit-maximizing output Q^* and max. profit? Try to use the diagrams to analyze this result. (10%)

4. Find the extremes of $Z = xy$ subject to $x + y = 6$. Try to use the second-order condition to test whether Z^* is a max. or min. (10%)

5. Determine whether the following functions are homogenous. If so, of what degree? (10%)

(a) $f(x,y) = \sqrt{xy}$

(b) $f(x,y) = x^3 - xy + y^3$

(c) $f(x,y,z) = \dfrac{xy^2}{z} + 2xz$