

國立政治大學九十八學年度研究所^博碩士班入學考試命題紙

第 1 頁，共 3 頁

考試科目	經濟	所別	國發	考試時間	5月16日 星期六	第 1 節
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1. A consumer with income $\$I$ to spend on bread and cheese has the utility function $u(b, c) = 2 \ln(b) + 3 \ln(c)$.

(i) (5 points) Calculate the Marshallian demand function of this consumer for cheese.

(ii) (3 points) Is cheese an inferior good or a normal good for this consumer? Explain briefly.

2. Consider a competitive market whose demand is given by $Q(p) = 250 - 10p$. There are 180 identical firms in the market, each producing with a technology characterized by the total cost function, $TC(q) = 4 + q + q^2$, where q denotes the quantity produced by each firm.

(i) (8 points) How much profit does each firm make in the short-run equilibrium?

(ii) (8 points) In the long run, firms can freely enter or exit the market. How many firms are there in the market when it reaches the long-run equilibrium.

3. Suppose a firm faces two consumers: Harry and Larry. Each of these consumer has the utility function $u(x) + m$, where x is the level of consumption of the good produced by the firm and m is the money left over for other purchases. Assume that each consumer has enough cash to begin with, so that you do not have to worry about the constraint that "money left over is nonnegative". For Harry, the function u is given by $u(x) = 10x - \frac{x^2}{2}$. For Larry, it is $u(x) = 8x - \frac{x^2}{2}$. The firm has constant marginal costs equal to 2.

(i) (8 points) Suppose the firm must charge a single linear price for its output, in nondiscriminatory fashion. What is the best price for it to set? What is the total profit?

(ii) (8 points) Suppose the firm sets an entry fee plus per-unit price for each consumer. It can tailor the entry fee and the per-unit price to the individual consumer. What are the best entry fees and per-unit prices for it to set? What is the total profit in this case?

(iii) (10 points) Suppose the firm can set an entry fee and a per-unit price for its output, but both the entry fee and the per-unit price must be the same for both consumers. What is the best combination of entry fee and per-unit price? What is the total profit in this case?

(背面還有試題)

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True/ False/ Uncertain Questions: Discuss whether each of the following statements is true, false, or uncertain. Provide a brief but clear explanation of your answer.

- 4 In a small, open economy like Taiwan, a temporary negative shock will have a bigger effect on consumption and long-run interest payments to foreigners than a permanent shock. (7%)
- 5 More competition necessarily promotes economic growth and social welfare, since firms are forced to produce more goods and extract less profit from consumers. (7%)
- 6 Progressive taxes (which mean that higher incomes are taxed at a higher rate than lower incomes) will tend to make the economy less stable, as opposed to a flat rate, meaning that all levels of income are subject to the same proportional rate. (7%)

Short Essays: Answer the following question. Use graphs and equations to elucidate your answers as necessary.

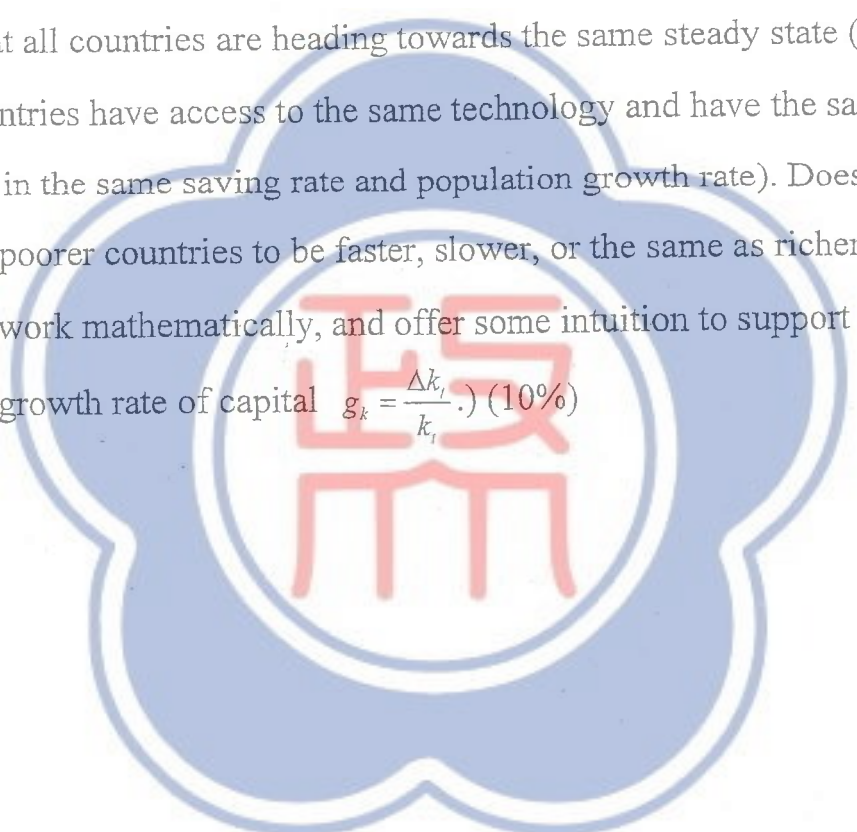
- 7 The Republic of Macrolandia has the following production function:

$$Y_t = F(K_t, L_t) = A_t K_t^\alpha L_t^{1-\alpha}, \text{ where } \alpha < 1.$$

where K_t is the capital stock; L_t is the labor force. Assume that A_t is constant over time (there is no technological progress in this economy, so $A_t = A$); g_L is the growth rate of L , δ is the rate of depreciation in this economy, and s is the saving rate.

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- A. Define and solve for the steady state values of capital per worker, output per worker, and consumption per worker. Draw a diagram that shows all three steady state values you calculated. (14%)
- B. Find the saving rate at which steady-state consumption is maximized. (5%)
- C. Assume that all countries are heading towards the same steady state (that is, in the long run, all countries have access to the same technology and have the same preferences as manifested in the same saving rate and population growth rate). Does the model predict growth for poorer countries to be faster, slower, or the same as richer countries? Please show your work mathematically, and offer some intuition to support your results. (Hint: Define the growth rate of capital $g_k = \frac{\Delta k_t}{k_t}$.) (10%)



考 試 科 目	英文	所 別	國際經營與貿易學系	考 試 時 間	5 月 16 日 星期六	第 二 節
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第一部分 英翻中(50分)

請將下列二段文字翻譯成中文

1. The Chinese consider eight to be a lucky number because it sounds like the word meaning “prosperity”. And luck, combined with a massive fiscal stimulus, may yet help the government to achieve its growth target of 8% in 2009. Earlier this year, most economists thought such growth was impossible at a time of deep global recession, but some are now nudging up their forecasts. At first sight, the GDP figures published on April 16th were disappointing. China’s growth rate fell to 6.1% in the year to the first quarter, less than half its pace in mid-2007. On closer inspection, however, the economy is starting to perk up. Comparing the first quarter with the previous three months, GDP rose at an estimated annualized rate of around 6%, after nearly stalling in the fourth quarter. By March the economy was gaining more speed, with the year-on-year increase in industrial production rising to 8.3% from an average of 3.8% in the previous two months. Retail sales were 16% higher in real terms than a year ago, and fixed investment has soared by 30%, signaling that the government’s infrastructure-led stimulus is starting to work. (25分)

2. Generally speaking, ‘induction’ refers to any form of inference in which we move from a finite set of observations or experimental results to a conclusion about how things generally behave. There are various forms of inductive inference, but we shall concentrate on simple enumerative inductions, which start from the premise that one phenomenon has always followed another so far, and conclude that those phenomena will always occur together. So, for example, you might note that, every time you have seen red sky in the evening, there has been fine weather next day, and conclude on that basis that red sky in the evening always followed by fine weather. Or you might note that all the samples of sodium you have heated on a Bensen burner have glowed bright orange. Schematically, the premise to an enumerative induction is that ‘n As have all been observed to be Bs’, and the conclusion is that ‘All As are Bs’. (25分)

(背面還有試題)

備	考 試 題 隨 卷 繳 交
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第二部分 英文作文(50 分)

請寫一篇英文作文，題目：Doing a Ph.D.；你(妳)必須在文章中運用到每一個下列的單字與片語，單複數、大小寫與時態變化是允許的。

單字(十個)

1. Analysis
2. Behavior
3. Effect
4. Factor
5. Indicate
6. Influence
7. Possibility
8. Relationship
9. Research
10. Theory

片語(五個)

1. Depend on
2. In terms of
3. Keep abreast of
4. Not only...but (also)...
5. With respect to

