

國立中央大學101學年度碩士班考試入學試題卷

所別：產業經濟研究所碩士班 法律組(一般生) 科目：經濟學 共 2 頁 第 1 頁  
本科考試禁用計算器

\*請在試卷答案卷(卡)內作答

1. (16%) TRUE, FALSE or UNCERTAIN.  
For each question decide whether the statement is false, true or uncertain. Your grade is determined by your explanation; an answer without an explanation receives no credit. Use graphs when needed to complement your answer.
- a. (4%) In a perfectly competitive market in stage 1 equilibrium, the price will always be at the minimum of the average cost curve.
- b. (4%) In the prisoner's dilemma all players have an incentive to deviate from the cooperative equilibrium but then end-up worse than if they have had cooperated.
- c. (4%) Monetary policy is especially effective when the economy is in a liquidity trap.
- d. (4%) When two countries have mutual absolute advantages, both countries will benefit from trade.
2. (12%) Based on market research, a film production company in Taiwan obtains the following information about the demand and production cost of its new DVD:  
Demand:  $P=1000-10Q$   
Marginal Cost:  $100+10Q$   
where  $Q$  indicates the number of copies sold and  $P$  is the Price NT dollars.
- a. (4%) Find the price and quantity maximizes the company's profit.
- b. (4%) Find the price and quantity that would maximize social welfare.
- c. (4%) Calculate the deadweight loss from monopoly.
3. (14%) The weekly demand and supply curves for gasoline in Massachusetts are as follows:  
 $Q^D = 10 - 5P$   
 $Q^S = 10P - 5$   
(  $P$ : \$/gallon ;  $Q$ : millions of gallons/week )
- a. (4%) Find the equilibrium price and quantity. Draw a graph of the market for gasoline in Massachusetts.
- b. (6%) The government of Massachusetts decides to impose a tax of \$0.75 per gallon on gasoline suppliers in order to fund highway maintenance. Find the new equilibrium price and quantity in the Massachusetts gasoline market. What happens to the price paid by consumers? The price received by producers? Calculate how much revenue the Massachusetts government collects.
- c. (4%) Who bears the greater burden of this tax, consumers or producers? Can you prove

注意：背面有試題

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your answer by calculating the elasticities of supply and demand along the relevant portions of the curves? Please use the "midpoint method" to calculate the elasticities.

4. (22%) A perfectly competitive firm has the following short run TC function:  
 $TC = 10 + 10q + q^2$   
where TC is measured in \$, and q is measured in units of output.
- a. (4%) Can you find expressions for ATC, AVC, and MC? Why isn't the AVC curve U-shaped here?
- b. (4%) Derive an expression for the firm's SR supply curve. It should be in terms of P and q.
- c. (4%) If there are 12 firms in this perfectly competitive industry, all with cost curves as in (a), what would be the *industry's* SR supply curve?
- d. (10%) If the demand curve for this product is:  
 $Q^D = 100 - 2P$   
Find the equilibrium price and quantity for this industry. How much output does each individual firm produce in this equilibrium? What are individual firm profits? Is this a SR or LR equilibrium? Why?
5. (20%) Imagine an economy given by the following set of equations.  
Consumption Function:  $C = .8(Y - T)$   
Tax Function (depends on output):  $T = .1Y$   
Investment:  $I = 100$   
Government Spending:  $G = 100$   
Exports:  $EX = 30$   
Imports:  $IM = 20 + .2Y$   
Initially assume that interest rates, investment, government spending, exchange rates and exports are all fixed.
- a. (4%) Solve for the equilibrium output level.
- b. (4%) At this initial equilibrium, what is trade surplus/deficit?
- c. (4%) At this initial equilibrium, what is the government budget surplus/deficit?
- d. (8%) In reality exchange rates and interest rates change (and thus so can investment, exports and imports). If the government cuts spending to reduce the government deficit, what effect will it have on interest rates and exchange rates? Explain.
6. (16%) Consider an open economy in which prices, interest rates, and the exchange rates all vary. Explain briefly the effect of expansionary fiscal policy on:
- a. (4%) The exchange rate. Does the dollar appreciate or depreciate?
- b. (4%) The trade balance? Improve or worsen?
- c. (4%) The price level? Rise or fall?
- d. (4%) The interest rate? Rise or fall?

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