

作答說明：回答時須在答案紙上依下列之格式寫出編號(1)至(23)的答案，不需列出計算過程或說明原因。答錯不倒扣。

(1)	(1)之答案 (不需列出計算過程或說明原因)
(2)	(2)之答案 (不需列出計算過程或說明原因)
(3)	(3)之答案 (不需列出計算過程或說明原因)
...	...
(22)	(22)之答案 (不需列出計算過程或說明原因)
(23)	作圖題的答案

第一部分：單一選擇題、(每題三分，答錯不倒扣)

1. Tobacco production is one of the more heavily subsidized industries in the United States. Suppose that as a result of intense lobbying from health-related concerns, Congress repeals the tobacco firms' subsidies. Which of the following scenarios would likely occur?

- The tobacco firms' supply curve would shift rightward, as it would now be cheaper to produce each level of output.
- The tobacco firms' supply curve would shift leftward, since it would now cost more to produce each level of output.
- The tobacco firms would not experience any shift in their supply curves; subsidies don't affect output.
- There would be a movement along the supply curve for tobacco, but the supply curve would not shift.
- None of the above.

2. If the government decided to legalize the purchase and sale of marijuana, the equilibrium quantity would _____ and the price would _____ if the supply of marijuana increased by _____ than the demand for marijuana increased.

- fall; fall; more
- fall; rise; more
- rise; fall; more
- rise; fall; less
- none of the above

3. A firm is considering the purchase of a capital good that will generate an additional \$400 income each year for 4 years (after which time the capital good is useless and has no scrap value). The capital good will cost \$1,600. If the interest rate is 3 percent, it follows that the firm should

- purchase the capital good.
- not purchase the capital good.
- purchase the capital good only on the condition that the expected inflation rate is greater than the nominal interest rate.
- not purchase the capital good since the expected inflation rate is less than the real interest rate.
- There is not enough information to answer the question.

見背面

4. Suppose a consumer is purchasing Coke and pretzels in quantities such that she is achieving consumer equilibrium. Then the price of Coke decreases. The consumer will likely _____ her consumption of Coke and the marginal utility of Coke will _____ while the total utility from Coke will _____.

- a. increase; increase; increase
- b. increase; decrease; decrease
- c. increase; decrease; increase
- d. decrease; increase; increase
- e. decrease; decrease; decrease

5. If we apply marginal analysis to a firm that is considering giving its employees a raise of \$2 an hour above the current market wage, we would conclude that the firm will go ahead with this plan only if

- a. the current market wage is below the minimum wage.
- b. labor costs are less than 50 percent of total costs.
- c. monitoring costs go down by more than \$2 per hour, per employee.
- d. the employees do not engage in shirking.
- e. None of the above.

6. The average-marginal rule states that if the marginal magnitude is

- a. less than the average magnitude, the average magnitude falls.
- b. greater than the average magnitude, the average magnitude falls.
- c. rising, the average magnitude is necessarily above it.
- d. falling, the average magnitude is necessarily below it.
- e. c and d

7. When the perfectly competitive firm produces the quantity of output at which marginal revenue equals marginal cost, it naturally

- a. produces the quantity of output at which marginal cost equals price, since for the perfectly competitive firm price equals marginal revenue.
- b. produces the quantity of output at which short-run average total cost equals price, since for the perfectly competitive firm short-run average total cost equals marginal revenue.
- c. earns a profit, since equating marginal revenue and marginal cost guarantees profit.
- d. takes a loss.
- e. none of the above.

8. Since for a monopoly firm price is greater than marginal cost at the profit-maximizing quantity of output, it follows that the monopoly firm will necessarily

- a. earn profit.
- b. cover its variable costs, but not necessarily its fixed costs, too.
- c. cover its fixed costs, but not necessarily its variable costs, too.
- d. maximize its profit by maximizing its total revenue.
- e. none of the above

接次頁

9. Once a person learns a computer program, he or she may be slow to change to a new one because there are costs involved in learning the new software. These costs are called _____ costs by economists and lead to the so-called _____ effect.

- switching; signaling
- signaling; lock-in
- lock-in; "Microsoft"
- switching; lock-in
- switching; "Microsoft"

10. Labor unions try to meet their objectives by influencing the elasticity of demand for labor and the demand for labor. To influence these factors, they try to do all the following except

- reduce the availability of substitutes for the product they produce.
- reduce the availability of substitute factors.
- increase demand for the product they produce.
- increase substitute factor prices.
- reduce the non-money benefits of substitute factors.

第二部分、填充題及多重選擇題 (每格五分)

1. Firm 1 and firm 2 are the only producers of spring water in the market. The market demand for spring water is given by $P = 70 - Q_1 - Q_2$. Firm 1 and firm 2 compete by choosing quantities Q_1 and Q_2 respectively. Each firm has a marginal cost of 10 and no fixed cost. Suppose the two firms decide to collude and share the profit equally. Assume that both firms value their reputation and will behave according to their agreement. What are the quantities they will choose for each firm ___(11)___? What is the profit of each firm ___(12)___? Suppose the two firms decide to collude and share the profit equally, but both firms do not care about their reputation and might try to take advantage of the other. Foreseeing this, they make a legally enforceable contract saying that if a firm does not produce the quantity agreed, it has to pay some penalty to the other firm. What is the minimum amount of penalty that ensures each firm producing the right quantity for colluding and sharing the profit equally? ___(13)___.

2. Linda has utility function over her net income $U(I) = \sqrt{I}$, Linda drives to work every day and she spends a lot of money in parking meters. Many days the thought of cheating and not paying for parking crosses her mind. However, she knows that there is a $\frac{1}{4}$ probability of being caught in a given day if she cheats, and that the cost of the ticket is \$36. Her daily income is \$100. What is the maximum amount of she will be willing to pay for one day parking ___(14)___? [Hint: by paying that amount she avoids the risk of getting a ticket!].

3. 以下關於國內生產毛額 (GDP) 的計算方式的敘述何者正確? ___(15)___ (答案可能不只一個, 全部答對才給分)

- 變更基期不會影響名目 GDP 成長率
- 由於跨期相對物價的變化, 變更基期會改變各期的實質 GDP 成長率
- 若產量快速成長的產品價格不斷下跌, 則實質 GDP 的成長率將被低估
- 若使用 chain-weighting 的方式計算實質 GDP 成長率, 則變換基期對於各期 GDP 成長率不會有影響

4. 呈上題, 1996 年起美國政府改以 chain-weighting 的方式計算實質 GDP。以下簡化的例子介紹該方法的精神。

見背面

首先定義第 t 年的 chain-weighting 實質 GDP 成長率為用相鄰兩年作為基期所計算出的成長率的簡單平均：

$$g(t) = 0.5g(t|b = t) + 0.5g(t|b = t - 1).$$

其中 $g(t|b = t)$ 為以第 t 年為基期所計算之第 t 年實質 GDP 成長率， $g(t|b = t - 1)$ 為以 $t - 1$ 年為基期所計算之第 t 年 GDP 成長率。接著，各年的實質 GDP 的計算方法為先選定一年為基期 ($t = b^*$)，使該年的實質 GDP 等於名目 GDP ($GDP(b^*)$)。基期之後各年的實質 GDP 為：

$$\text{RealGDP}(b^* + s) = \text{GDP}(b^*) \prod_{t=1}^s (1 + g(b^* + t)), s = 1, 2, 3, \dots$$

同理，基期之前各年的實質 GDP 為

$$\text{RealGDP}(b^* - s) = \text{GDP}(b^*) \prod_{t=0}^{s-1} \frac{1}{(1 + g(b^* - t))}, s = 1, 2, 3, \dots$$

假設某小國只生產電腦及貨車兩種產品，其數量及價格資料如下。假設 2011 年為基期，則根據 chain-weighting 的方式計算 2012 年的實質 GDP 為 (16)，2010 年的 GDP 平減指數 (GDP deflator) 為 (17)。

	電腦			貨車			名目 GDP
	數量	價格	總支出	數量	價格	總支出	
2010	10	1	10	5	2	10	20
2011	20	0.5	10	5	3	15	25
2012	40	0.25	10	5	4	20	30

5. 假設某國的人民都可存活兩期，第一期為青年，第二期為老年。同一時期中青年人口的數目為老年人口的 $(1 + n)$ 倍， $n > 0$ 。每個人青年時期的可支配所得為 y_1 元，老年時期的可支配所得為 y_2 元。假設該國政府決定於第 T 期開辦隨收隨付制 (pay as you go) 的老人年金，該年金每期將對當期的每位青年課徵 t 元的稅，同時發放 b 元給每一位老年人口。在以上設定之下，此年金體系每期都維持收支平衡的條件為 $(1 + n)t = b$ 。很明顯的，此年金實施後對於在第 T 期時已是老年的人口為一大利多 (年輕時沒有繳稅，但是可以領到老人年金)。但這樣的年金制度可否增加在第 T 期時的青年人口或是還沒有出生的人口的福利呢？

- (i) 假設兩期間的實質利率皆為 $r > 0$ ，則第 T 期時年輕人口的終生財富現值為 (18)。
- (ii) 請問在何種條件之下此年金制度也可以增加年輕人口的福祉？(19) (請儘量簡化條件，條件中請不要用到 y_1 及 y_2)。

6. 台灣的年金制度目前正逐漸由隨收隨付制走向個人帳戶制，例如在目前的勞工退休金制度中，雇主提撥薪資的 6% 存入勞工個人的退休金帳戶中，帳戶中的資金由政府代為管理及投資(實務上，政府將部分資金委外代操)，勞工退休時可以領回個人帳戶中累積的本金及孳息。以下敘述何者正確？(20) (答案可能不只一個，全部答對才給分)

- (a) 假設政府與私人投資的報酬率相當，則不論勞工原來的儲蓄習慣為何，帳戶制的年金制度都可以提高勞工的福利。
- (b) 帳戶制年金制度等同於強迫儲蓄，可以幫助政府在不動用大眾稅收之下，減輕因年輕時沒有儲蓄習慣導致老年生活窮困的人所造成的社會問題。
- (c) 帳戶制相較於隨收隨付制的一個缺點在於由政府管理的基金投資效率未必比私人來得好，且投資標的會受到政治考量的影響，例如政府可能限制部分資金只能做社會責任投資 (socially responsible investment)。

(d) 帳戶制相較於隨收隨付制的一個缺點在於當基金管理不當導致虧損時，政府將被迫給於融通 (bailout)，此一隱形的融通保證將使得代操的基金經理人過度追求風險，因此政府需要另訂規範處理基金經理人道德風險的問題。

7. 某國的勞動人口成長率為 1.4%。生產函數為：

$$Y = AK^{0.5}L^{0.5},$$

其中 Y 為 GDP， A 為技術， K 為土地， L 為勞動人口。已知 A 的成長率約為 Y 的成長率的 1/4，且單位面積勞動人口數 (L/K) 的成長率為 0.25%。則 GDP 成長率為 (21)，勞動生產力 (Y/L) 的成長率為 (22)。

第三部分、作圖題 (十分)

考慮一兩期的消費模型，消費者 A 在兩期的可支配所得與消費分別為 y_t 及 c_t , $t = 1, 2$ 。A 擁有一 H 坪的房產，可在第二期時以每坪 p 的價格售出。假設消費者面對的實質借貸利率皆為 r ，因此 A 的終生財富在第一期的現值為 $y_1 + (y_2 + pH)/(1+r)$ 。由於 A 的信用有瑕疵，因此若第一期時要借錢增加消費，資金提供者 (如銀行) 將要求 A 將房產作為抵押，且最多只願意借出房產價值於第一期的現值。請畫圖說明房產價格下跌對於 A 的兩期消費選擇的影響。圖中需有四條線，包含房產價格下跌前後的預算線，以及通過房產價格下跌前後最適消費選擇點上的無異曲線，請將座標軸以及房產價格下跌前後的原賦點標示清楚。 (23)

試題隨卷繳回