

科目：會計學

系組：金融與國際企業學系

年級：二

請將答案依下列方式寫在答案卷第一頁，計算及說明寫在第二頁以後各頁

1. _____ 2. _____ 3. _____ 4. _____ 5. _____
 6. _____ 7. _____ 8. _____ 9. _____ 10. _____
 11. _____ 12. _____ 13. _____ 14. _____ 15. _____
 16. _____ 17. _____ 18. _____ 19. _____ 20. _____

一. 填充題二十格每格五分共 100 分

1. 新府公司於 105 年 1 月 1 日購買機器一台成本 800,000 元，估計可用 5 年殘值 80,000 元，即日啟用，採年數合計法提列折舊，則 105 年應提折舊金額為 (1) 元；105 年 12 月 31 日，該機器淨公允價值 500,000 元，使用價值 520,000 元，可回收金額為 (2) 元，資產減損損失為 (3) 元，殘值及使用年限不變，106 年度折舊金額為 (4) 元，107 年 1 月 1 日以舊機器另加現金 500,000 元，交換公允價值 900,000 元貨車一輛，交換具商業實質，則交換損益為 (5) 元(請註明損失或利益)，貨車成本為 (6) 元。

2. 下列是慈恩公司有關股票投資交易資料：

107 年 1 月 1 日以每股 25 元購入新竹公司股票 60,000 股，共付 1,500,000 元。

6 月 1 日新竹公司以 106 年盈餘發放每股 1 元現金股利。

12 月 31 日新竹公司全年淨利 700,000 元，每股公允價值 28 元

108 年 6 月 8 日新竹公司發放每股 0.6 元現金股利。

12 月 31 日新竹公司全年淨損 120,000 元，每股公允價值 23 元

試就下列三種獨立情況，計算慈恩公司因購買新竹公司股票，造成當年稅前淨利增加或減少多少元，請註明增加或減少。

(1). 持有新竹公司有投票權股份 30%，具有重大影響力，作為採用權益法之投資，107 年稅前淨利增減 (7) 元，108 年稅前淨利增減 (8) 元。

(2). 作為透過損益按公允價值衡量金融資產，107 年稅前淨利增減 (9) 元，108 年稅前淨利增減 (10) 元。

(3). 作為透過其他綜合損益按公允價值衡量金融資產，107 年稅前淨利增減 (11) 元，108 年 12 月 31 日透過其他綜合損益按公允價值衡量金融資產帳面金額 (12) 元。

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部分可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

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3. 三佳公司股本包括 8%之累積非參加特別股\$3,000,000，以及\$7,000,000之普通股。107年未發放股利，故特別股有一年積欠股利。108年宣告\$1,000,000之股利，則特別股可分配股利(13)元，普通股可分配(14)元。

4. 台東公司 108 年 1 月 1 日存貨 500 個，每個 112 元，共 56,000 元，該年購銷資料如下：

購 貨				銷 貨			
日期	數量	單價	小計	日期	數量	單價	小計
5/8	700	\$114	\$79,800	3/6	300	\$180	\$54,000
10/7	800	115	92,000	7/6	600	185	111,000
				12/23	500	180	90,000
合計	<u>1,500</u>		<u>\$171,800</u>	合計	<u>1,400</u>		<u>\$255,000</u>

期末盤點存貨為 600 個，採先進先出法，期末存貨為(15)元，銷貨成本(16)元，銷貨毛利(17)元。

5. 竹林公司 108 年 5 月 31 日銀行月結單存款餘額為 710,000 元，與帳上存款餘額不同，經核造成不同原因為：

銀行存款利息 1,000 元銀行已入帳，公司尚未入帳；銀行扣收手續費 700 元，公司尚未入帳；竹林公司 5 月 31 日存入 32,000 元，銀行尚未入帳，則正確存款為(18)元，帳上存款餘額為(19)元。

6. 106 年 12 月 31 日應收帳款餘額 1,800,000 元，備抵呆帳貸方餘額 9,000 元，107 年全年賒銷 8,000,000 元，應收帳款收現 7,400,000 元，沖銷無法收回帳款 10,000 元，107 年 12 月 31 日估計應收帳款將有 18,000 元無法收回，調整時應借記呆帳費用(20)元。

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壹、 選擇題共 30 題每題 3 分共 90 分

1. If Michael attends college, it will take her four years, during which time she will earn no income. She will pay \$50,000 for tuition, \$12,000 for room and board, and \$5,000 for books. If she spends the four years working rather than attending college, she will pay \$18,000 for room and board, pay no tuition, and buy no books. Based on this information, Faith's economic cost of attending college would be \$67,000 if, over the four years, she could earn
 - a. \$12,000 instead of attending college.
 - b. \$14,000 instead of attending college.
 - c. \$16,000 instead of attending college.
 - d. \$18,000 instead of attending college.
2. Suppose that a worker in Cornland can grow either 40 bushels of corn or 10 bushels of oats per year, and a worker in Oatland can grow either 20 bushels of corn or 5 bushels of oats per year. There are 20 workers in Cornland and 20 workers in Oatland. Which of the following statements is true?
 - a. Both countries could gain from trade with each other.
 - b. Neither country could gain from trade with each other because Cornland has an absolute advantage in both goods.
 - c. Neither country could gain from trade with each other because neither one has a comparative advantage.
 - d. Oatland could gain from trade between the two countries, but Cornland definitively would lose.
3. A drug interdiction program that successfully reduces the supply of illegal drugs in the United States likely will
 - a. raise the price, reduce the quantity, decrease total revenues, and decrease crime.
 - b. lower the price, increase the quantity, increase total revenues, and increase crime.
 - c. raise the price, increase the quantity, decrease total revenues, and increase crime.
 - d. raise the price, reduce the quantity, increase total revenues, and increase crime.
4. Suppose sellers of perfume are required to send \$1.00 to the government for every bottle of perfume they sell. Further, suppose this tax causes the price paid by buyers of perfume to rise by \$0.60 per bottle. Which of the following statements is correct?
 - a. The effective price received by sellers is \$0.40 per bottle less than it was before the tax.
 - b. Sixty percent of the burden of the tax falls on sellers.
 - c. This tax causes the demand curve for perfume to shift downward by \$1.00 at each quantity of perfume.
 - d. All of the above are correct.
5. Suppose that the equilibrium price in the market for tomatoes is \$3 per pound. If a law reduced the maximum legal price for tomatoes to \$2 per pound,
 - a. any possible increase in consumer surplus would be larger than the loss of producer surplus.
 - b. any possible increase in consumer surplus would be smaller than the loss of producer surplus.
 - c. the resulting increase in producer surplus would be larger than any possible loss of consumer surplus.
 - d. the resulting increase in producer surplus would be smaller than any possible loss of consumer surplus.
6. In which of the following cases is it most likely that an increase in the size of a tax will decrease tax revenue?
 - a. The price elasticity of demand is small, and the price elasticity of supply is large.
 - b. The price elasticity of demand is large, and the price elasticity of supply is small.

- c. The price elasticity of demand and the price elasticity of supply are both small.
d. The price elasticity of demand and the price elasticity of supply are both large.
7. Chile is an importer of computer chips, taking the world price of \$12 per chip as given. Suppose Chile imposes a \$7 tariff on chips. Which of the following outcomes is possible?
- The price of chips in Chile increases to \$19; the quantity of Chilean-produced chips decreases; and the quantity of chips imported by Chile decreases.
 - The price of chips in Chile increases to \$16; the quantity of Chilean-produced chips increases; and the quantity of chips imported by Chile decreases.
 - The price of chips in Chile increases to \$19; the quantity of Chilean-produced chips increases; and the quantity of chips imported by Chile decreases.
 - The price of chips in Chile increases to \$16; the quantity of Chilean-produced chips increases; and the quantity of chips imported by Chile does not change.
8. Wally owns a dog whose barking annoys Wally's neighbor, Corrine. Suppose that the benefit of owning the dog is worth \$700 to Wally and that Corrine bears a cost of \$500 from the barking. Assuming Wally has the legal right to keep the dog, a possible private solution to this problem is that
- Wally pays Corrine \$600 for her inconvenience.
 - Corrine pays Wally \$400 to give the dog to his parents who live on an isolated farm.
 - Corrine pays Wally \$550 to give the dog to his parents who live on an isolated farm.
 - The current situation is efficient.
9. Which of the following statements is correct?
- Environmental degradation is an example of a free rider problem..
 - The division between public goods and common resources is clear-cut.
 - Some goods, such as lighthouses, may be either private or public goods.
 - The free-rider problem prevents governments from supplying public goods.
10. Suppose Luke values a scoop of Italian gelato at \$4. Leia values a scoop of Italian gelato at \$6. The pre-tax price of a scoop of Italian gelato is \$2. The government imposes a "fat tax" of \$3 on each scoop of Italian gelato, and the price rises to \$5. The deadweight loss from the tax is
- \$4, and the deadweight loss comes from both Luke and Leia.
 - \$4, and the deadweight loss comes only from Luke because he does not buy gelato after the tax.
 - \$2, and the deadweight loss comes from both Luke and Leia.
 - \$2, and the deadweight loss comes only from Luke because he does not buy gelato after the tax.
11. When a firm is experiencing diseconomies of scale, long-run
- average total cost is minimized.
 - average total cost is greater than long-run marginal cost.
 - average total cost is less than long-run marginal cost.
 - marginal cost is minimized.

Scenario 1

Assume a certain firm in a competitive market is producing $Q = 1,000$ units of output. At $Q = 1,000$, the firm's marginal cost equals \$15 and its average total cost equals \$11. The firm sells its output for \$12 per unit.

12. Refer to Scenario 1. At $Q = 999$, the firm's total costs equal
- \$10,985.
 - \$10,990.
 - \$10,995.
 - \$10,999.
13. Refer to Scenario 1. At $Q = 999$, the firm's profits equal
- \$993.
 - \$997.
 - \$1,003.

d. \$1,007.

Scenario 2

Vincent operates a scenic tour business in Boston. He has one bus which can fit 50 people per tour and each tour lasts 2 hours. His total cost of operating one tour is fixed at \$450. Vincent's cost is not reduced if he runs a tour with a partially full bus. While his cost is the same for all tours, Vincent charges each passenger his/her willingness to pay: adults \$18 per trip, children \$10 per trip, and senior citizens \$12 per trip. At those rates, on a typical day Vincent's demand is:

Passenger Type	Willingness to Pay	Demand per day
Adults	\$18	70
Children	\$10	25
Senior Citizens	\$12	55

Assume that Vincent's customers are always available for the tour; therefore, he can fill his bus for each tour as long as there is sufficient total demand for the day.

14. Refer to Scenario 2. What is Vincent's total revenue on a typical day?

- a. \$1,500
- b. \$1,800
- c. \$2,170
- d. \$2,700

15. Refer to Scenario 2. What is Vincent's profit on a typical day?

- a. \$660
- b. \$820
- c. \$1,350
- d. \$2,170

16. Refer to Scenario 2. Vincent is considering changing his pricing strategy. Which of the following options results in the highest profit per day?

- a. Charge a single price of \$10 to all passengers.
- b. Charge a single price of \$12 to all passengers.
- c. Charge a single price of \$18 to all passengers.
- d. Continue charging each buyer his/her willingness to pay.

17. Juan Pablo and Zak are competitors in a local market. Each is trying to decide if it is better to advertise on TV, on radio, or not at all. If they both advertise on TV, each will earn a profit of \$8,000. If they both advertise on radio, each will earn a profit of \$14,000. If neither advertises at all, each will earn a profit of \$20,000. If one advertises on TV and other advertises on radio, then the one advertising on TV will earn \$12,000 and the other will earn \$10,000. If one advertises on TV and the other does not advertise, then the one advertising on TV will earn \$22,000 and the other will earn \$4,000. If one advertises on radio and the other does not advertise, then the one advertising on radio will earn \$24,000 and the other will earn \$8,000. If both follow their dominant strategy, then Juan Pablo will

- a. advertise on TV and earn \$8,000.
- b. advertise on radio and earn \$14,000.
- c. advertise on TV and earn \$22,000.
- d. not advertise and earn \$20,000.

18. Assume the market for candles is competitive. A new invention leads to labor-augmenting technological progress in the production of candles. This development

- a. decreases the demand for workers who make candles and decreases their equilibrium wage.
- b. increases the demand for workers who make candles and increases their equilibrium wage.
- c. increases the supply of workers who make candles and decreases their equilibrium wage.
- d. increases the supply of workers who make candles and increases their equilibrium wage.

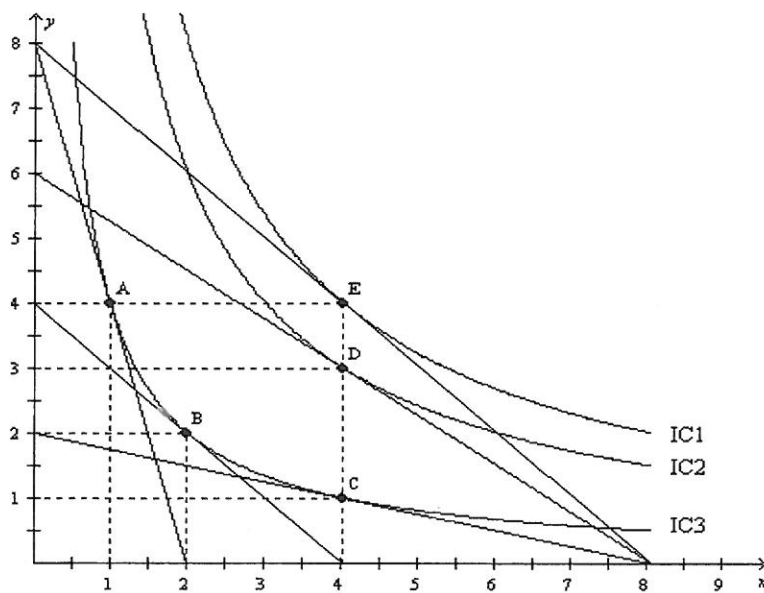
Table 1

Percentage of Before-Tax Income Received by Families in Hapland

Group	Percentage of Family Income in 2000	Percentage of Family Income in 1950
Top Fifth	50.7	45.9
Fourth Fifth	26.9	25.8
Middle Fifth	12.1	13.6
Second Fifth	6.2	7.2
Bottom Fifth	4.1	5.5

19. Refer to Table 1. According to the table, from 1950 to 2000, the Hapland income distribution became
- less equal.
 - more equal.
 - more equal at the lowest level of income but less equal at highest level of income.
 - less equal at the lowest level of income but more equal at highest level of income.

Figure 1



20. Refer to Figure 1. When the price of X is \$6, the price of Y is \$24, and income is \$48, Paul's optimal choice is point C. Then the price of Y decreases to \$8. Paul's new optimal choice is point
- A.
 - B.
 - D.
 - E.
21. Refer to Figure 1. When the price of X is \$6, the price of Y is \$24, and income is \$48, Paul's optimal choice is point C. Then the price of Y decreases to \$6. Paul's new optimal choice is point
- A.
 - B.
 - D.
 - E.
22. During the 2008 financial crisis velocity decreased. This means that the rate at which money changed hands
- decreased. Other things the same, a decrease in velocity decreases the price level.
 - decreased. Other things the same, a decrease in velocity increases the price level.
 - increased. Other things the same, an increase in velocity decreases the price level.
 - increased. Other things the same, an increase in velocity increases the price level.
23. If purchasing-power parity between France and the U.S. holds, but then U.S. prices rise,
- the real exchange rate is above its purchasing-power parity value. An increase in the

- nominal exchange rate can move it back.
- b.the real exchange rate is above its purchasing-power parity value. A decrease in the nominal exchange rate can move it back.
- c.the real exchange rate is below its purchasing-power parity value. An increase in the nominal exchange rate can move it back.
- d.the real exchange rate is below its purchasing-power parity value. A decrease in the nominal exchange rate can move it back.
24. Which of the following contains a list only of things that decrease when the budget deficit of the U.S. increases?
- a. U.S. net exports, U.S. domestic investment, U.S. net capital outflow
- b. U.S. supply of loanable funds, U.S. interest rates, U.S. domestic investment
- c. U.S. imports, U.S. interest rates, the real exchange rate of the dollar
- d. None of the above is correct.
25. Which of the following is most likely to result if foreigners decide to withdraw the funds that they have loaned to the United States?
- a. U.S. net exports will fall
- b. U.S. net capital outflow will rise
- c. U.S. domestic investment will rise
- d. the dollar will appreciate
26. Suppose the economy is in long-run equilibrium. If there is a sharp decline in government purchases combined with a significant increase in immigration of skilled workers, then in the short run,
- a.real GDP will rise and the price level might rise, fall, or stay the same. In the long-run, real GDP will rise and the price level might rise, fall, or stay the same.
- b.the price level will fall, and real GDP might rise, fall, or stay the same. In the long-run, real GDP and the price level will be unaffected.
- c.the price level will rise, and real GDP might rise, fall, or stay the same. In the long run, real GDP will rise and the price level will fall.
- d.the price level will fall, and real GDP might rise, fall, or stay the same. In the long run, real GDP will rise and the price level will fall.
27. If output is above its natural rate, then according to sticky-wage theory
- a.workers and firms will strike bargains for higher wages. This increase in wages shifts the short-run aggregate supply curve right.
- b.workers and firms will strike bargains for higher wages. This increase in wages shifts the short-run aggregate supply curve left.
- c.workers and firms will strike bargains for lower wages. This decrease in wages shifts the short-run aggregate supply curve right.
- d.workers and firms will strike bargains for lower wages. This decrease in wages shifts the short-run aggregate supply curve left.
28. According to liquidity preference theory, a decrease in money demand for some reason other than a change in the price level causes
- a. the interest rate to fall, so aggregate demand shifts right.
- b. the interest rate to fall, so aggregate demand shifts left.
- c. the interest rate to rise, so aggregate demand shifts right.
- d. the interest rate to rise, so aggregate demand shifts left.
29. Assume there is a multiplier effect, some crowding out, and no accelerator effect. An increase in government expenditures changes aggregate demand more,
- a. the smaller the MPC and the stronger the influence of income on money demand.
- b. the smaller the MPC and the weaker the influence of income on money demand.
- c. the larger the MPC and the stronger the influence of income on money demand.
- d. the larger the MPC and the weaker the influence of income on money demand.
30. There is an adverse supply shock. In response the Federal Reserve pursues an expansionary monetary policy. Taking

into account both the shock and the Federal Reserve's policy, which of the following are we sure of?

- a. unemployment will be higher
- b. unemployment will be lower
- c. inflation will be higher
- d. inflation will be lower

貳、 解釋名詞共 10 分

1. 簡單說明內生成長理論?(10分)

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科目：微積分

系組：金融與國際企業學系 年級：二

10% 1. $\lim_{x \rightarrow 1} \frac{5x^8 - 5x^7 + 8x^2 + 10x - 18}{x-1}$

10% 2. Show that every polynomial function is continuous.
(Hint: an application of rules of limits)

10% 3. $\frac{d}{dx}(5x^{\sqrt{2}} + 4x^2 + 6x^{0.5})$

10% 4. $\frac{d}{dx}\{e^x \sin^2(\ln x)\}$

10% 5. The formula for the volume of a sphere is $V = \frac{4}{3}\pi r^3$, where r is the radius of sphere and π is a constant. Show that the derivative of the volume formula is $4\pi r^2$, the formula for the surface area of a sphere. Give an explanation for this in terms of rates of change.

10% 6. Graph $f(x) = \frac{7}{6}x^3 - 7x^2 + \frac{35}{2}x + 8$

10% 7. Find and compare the values of df and Δf for $f(x) = x^2$ at $x = 1$ and $dx = \Delta x = 0.1$. What are the missing terms resulting the difference between df and Δf ? When the function $f(x)$ is a distance function, give an explanation for these missing terms.10% 8. Find the relative extreme values of $f(x, y) = 6x^2 - 8xy + 8y^2 - 8x + 16y + 8$.10% 9. Minimize $f(x, y) = 6xy + 18yz + 24xz$ subject to the constraint $xyz = 1500$.

10% 10. Show that

$$\int_a^x f^{(k+1)}(t)(x-t)^k dt = \frac{1}{k+1}(x-a)^{k+1}f^{(k+1)}(a) + \frac{1}{k+1}\int_a^x f^{(k+2)}(t)(x-t)^{k+1} dt$$

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科目：統計學

系組：金融與國際企業學系

年級：三

1. (20%)某製造商宣稱其出產的一袋產品平均重量9公斤，標準差為0.8公斤，某人從其中隨機抽出13袋產品，發現其平均重量為8.6公斤(假設母體機率分配為常態)。
- (a) 請以假設檢定檢驗此廠商的宣稱是否可信(顯著水準設定在10%)?
- (b) 請建立99%信賴區間，並以此信賴區間作檢定。

2. (20%)假設某餐廳調查A,B兩種餐點每天賣出的數量如下:

A餐	25	35	20	26	30	30	42	29	35
B餐	30	40	30	30	33	24	34	35	25

- (a) 請列示賣出A餐與B餐兩種餐點數目的聯合分配與邊際分配表。
- (b) 試求出A餐賣出數目的期望值與變異數。
- (c) 請解釋A餐與B餐賣出數量是否獨立?
3. (10%)假設一糖果製造商宣稱每一袋出現"特別糖果"的機率是95%，假如任意選取30個袋子，請問超過25個袋子包含"特別糖果"的機率是多少?
4. (10%)某診所的病患等候看診時間呈指數分配，平均需時20分鐘，請問某病患必須等10分鐘才能被服務到的機率為多少?
5. (20%)某老師想了解學生的性向測驗成績(x)與統計學成績(y)的關係，收集樣本資料如下:

性向測驗成績(x)	95	85	80	70	60	90	70	65
統計學成績(y)	85	95	70	65	70	93	65	75

- (a) 求y對x的迴歸方程式?
- (b) 請分別從經濟顯著性與統計顯著性的角度來評論性向測驗成績對統計學成績的影響。
- (c) 請計算模型的整體配適度。
6. (20%)為了解家庭中父親與母親每日陪伴孩子的時間是否有差異，因此收集了6位家庭的資料。

	1	2	3	4	5	6
父親陪伴時間(小時)	1.5	1.3	3.5	1.8	1.2	3.8
母親陪伴時間(小時)	2	2.4	2.4	1.5	2.4	4.1

若母體分配為常態分配，請以統計方法來檢定父親與母親每日陪伴孩子的時間是否有顯著差異? $(\alpha = 10\%)$

相關資料: $Z_{0.01}=2.33$, $Z_{0.025}=1.96$, $Z_{0.05}=1.645$, $t_{0.01}(5)=3.365$, $t_{0.025}(5)=2.571$, $t_{0.05}(5)=2.015$,
 $t_{0.01}(6)=3.143$, $t_{0.025}(6)=2.447$, $t_{0.05}(6)=1.943$, $t_{0.01}(11)=2.718$, $t_{0.025}(11)=2.201$, $t_{0.05}(11)=1.796$,
 $t_{0.01}(12)=2.681$, $t_{0.025}(12)=2.179$, $t_{0.05}(12)=1.782$

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。