

總體經濟部份：

一、選擇題，單選，每題五分

1. 在簡單凱因斯模型中，增加自發性儲蓄(減少自發性消費)，結果儲蓄總額不變。依一般IS-LM模型，若一國增加自發性儲蓄，則其儲蓄總額與原均衡相較A)增加B)減少C)不變
2. 若國民所得帳中所得為1,000，存貨變動為30，則A)均衡所得為1000 B)均衡所得大於1000 C)均衡所得小於1000 D)無法判定1000是否為均衡所得

二、填充題，每題五分，無須寫出算式

1. 本國持有國外債券增加150，外國持有本國債券減少20，外國持有本國股票增加100，本國在外國銀行存款減少50，本國對外直接投資80，本國商品出口200，請問該國金融帳餘額=_____
2. 依據凱因斯模型 $C = 200 + 0.8(Y - T)$, $G = 80$, $T = 100$ ，設政府支出增加50，則經濟成長率為若干？_____
3. 簡單凱因斯模型中 $Y = C_0 + cY + I$ ，若自發性消費增加，則新均衡與原均衡相較，總支出的增量中有若干比例是自發性消費？_____ 若干比例是誘發性消費？_____
4. 包括政府支出、定額稅及比例稅的凱因斯模型中， $Y = C_0 + c(Y - tY - T) + G + I$ ，請導出儲蓄函數，整理後以簡潔形態寫出_____
5. 若有如下IS線： $C = 100 + 0.75(Y - T)$ ， $I = 500 - 40r$ ， $G = T = 400$ ， $(M/P)^d = 500 + 0.25Y - 3000r$ ， $M/P = 600$ 當所得為1000時，若貨幣市場維持均衡而貨物市場未達均衡，則貨物市場有超額貨物供給或超額貨物需求若干？_____
6. 凱因斯模型中，邊際消費傾向為c，邊際稅率為t，新增消費中採購進口貨之比率為m，請寫出政府支出乘數。_____
7. 目前利率為10%，目前麵包一個20元，小明本月零用錢收入200元，預期下月收入為120元，小明預期下月麵包漲價4%，令小明本月買麵包x個，下月買麵包y個，請寫出小明本月與下月的跨期預算限制式。_____
8. IS-LM-BP模型中，A)本國利率B)外國利率C)外國所得D)本國所得E)本國物價五因素，何者變動會使IS線移動？_____ 各因素使IS向右或向左移動？_____

個體經濟部份：

一、問答題：

1. The demands functions for two products depend on the prices of product 1 and product 2, P_1 and P_2 , We can express demand functions of the two products by: $Q_1 = 15 - 3P_1 + P_2$, $Q_2 = 6 - 2P_2 + P_1$. On the other hand, each supply curve depends on only its own price: $Q_1 = 2 + P_1$, $Q_2 = 1 + P_2$ Please solve for the market equilibrium of the two products: P_1 , P_2 , Q_1 and Q_2 (16分)

2. Suppose that Panasonic and Zenith are the only two firms that can produce a new type of high-definition television. The payoffs (in millions of dollars) from entering this product market are shown in the following payoff matrix: (16分)

		Panasonic	
		Enter	Do Not Enter
Zenith	Enter	-40 / -40	0 / 250
	Do Not Enter	0 / 250	0 / 0

- If both firms move simultaneously, does either firm have a dominant strategy? Explain.
- What are the Nash equilibria, given that both firms move simultaneously?
- If the U.S. government commits to paying Zenith a lump-sum subsidy of \$50 million if it enters this market, what is the Nash equilibrium?
- If Zenith does not receive a subsidy but has a head start over Panasonic, what is the Nash equilibrium?

3. 請扼要作答，每小題答案勿超過100字

在雲霧飄渺的東海中，有一小島，名為桃花島。

(18分)

在桃花島上只有一條環島的鐵路，為島民各項活動時交通的唯一工具。除此之外，由於缺乏公路建設，桃花島的居民，只能以步行的方式來交通。

- 請問在此種情況下，為了確保民眾『行』的便利，桃花島內的鐵路交通服務有哪幾種方式種可以提供？在此種情況下，桃花島上「交通服務」的基本品質、價格、以及營業的方式是否能交由「市場機能」自由決定？
- 假設（經濟學的好處在於可以「假設」許多想像的狀況）桃花島的科學家們突破了科技上的限制，而全島建設了6條的「環島鐵路」，請問此時，「交通服務」的價格、品質以及營業方式是否可以（全部或者是局部）交由市場機能，由市場的供需決定？此時，政府的角色為何？
- 更進一步假設，桃花島上的公路運輸隨著高速公路系統的建設日益完善，而空中的運輸也因「天空開放」的政策變得方便與普及。每個家庭自有轎車的比例高達99%，航空班次與票價也非常普遍與合理。請問：在此情況下，「鐵路運輸」與其他方式的運輸會產生足夠競爭壓力嗎？桃花島上的「鐵路運輸」的價格、品質與營運方式，可否交由「市場機能」，由市場的供需決定？此時，你覺得政府的角較前小題中更為增強還是減弱？

後記：如果我們將「鐵路運輸」改成「電信服務」，其他的「交通服務」改成『有線電視』、『數位廣播』、『網路傳輸』等，我們也許可以產生更多的聯想。

國立中山大學九十二學年度碩士班招生考試試題

科目： 財務管理(財管所)

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壹、選擇題 (計廿題，每題二點五分)

1. Which of the following statements about operating leverage is true?
 - I. A firm with low operating leverage will have low fixed costs compared with a firm with high operating leverage.
 - II. Fixed costs act like a lever, in the sense that a small percentage change in sales revenue can be magnified into a large percentage change in operating income.
 - III. The higher the degree of operating leverage, the greater the potential danger from business risks.
 - A. I only.
 - B. II only.
 - C. I and III only.
 - D. I, II, and III.

2. If a country liberalizes its depreciation rules for tax reporting purposes, more capital-intensive industries:
 - A. and less capital-intensive industries would benefit equally.
 - B. and less capital-intensive industries would not realize benefits.
 - C. would realize larger benefits than less capital-intensive industries.
 - D. would realize smaller benefits than less capital-intensive industries.

3. Which *one* of the following would best explain a situation where the ratio of "net income to total equity" for a firm is higher than the industry average, while the ratio of "net income to total assets" is lower than the industry average?
 - A. Net profit margin is higher than the industry average.
 - B. Debt ratio is higher than the industry average.
 - C. Asset turnover is higher than the industry average.
 - D. Equity multiplier must be lower than the industry average.

4. If a firm's ratio of "total liabilities to total assets" is higher than the industry average while its ratio of "long-term debt to stockholders' equity" is lower than the industry average, it would most likely indicate that the firm:
 - A. has more current liabilities than the industry average.
 - B. has more leased assets than the industry average.
 - C. will be less profitable than the industry average.
 - D. has more current assets than the industry average.

5. Two companies are identical except for substantially different dividend payout ratios. After several years, the company with the lower dividend payout ratio is *most likely* to have:
 - A. lower stock price.
 - B. higher debt/equity ratio.
 - C. less rapid growth of earnings per share.
 - D. more rapid growth of earnings per share.

6. Which of the following does NOT imply an informationally efficient market?
 - A. Security prices adjust rapidly to reflect new information.
 - B. The timing of one news announcement is independent of other news announcements.
 - C. A risk-free asset exists, and investors can borrow and lend unlimited amount at the risk-free rate.
 - D. Many profit-maximizing participants, each acting independently of the others, analyze and value securities.

7. A company announces an unexpectedly large cash dividend to its shareholders. In an efficient market *without* information leakage, the most likely expectation is:
 - A. an abnormal price change at the announcement.
 - B. an abnormal price increase before the announcement.
 - C. an abnormal price decrease after the announcement.
 - D. no abnormal price change before or after the announcement.

國立中山大學九十二學年度碩士班招生考試試題

科目： 財務管理(財管所)

共 4 頁 第 2 頁

8. Assume that at the end of the next year, Company A will pay a \$2.00 dividend per share, an increase from the current dividend of \$1.50 per share. After that, the dividend is expected to increase at a constant rate of 5%. If you require a 12% return on the stock, what is the value of the stock?
- A. \$28.57.
 - B. \$28.79.
 - C. \$30.00.
 - D. \$31.78.
9. Company B paid a \$1.00 dividend per share last year and is expected to continue to pay out 40% of its earnings as dividends for the foreseeable future. If the firm is expected to generate a 10% return on equity in the future, and if you require a 12% return on the stock, what is the value of the stock?
- A. \$12.50.
 - B. \$13.00.
 - C. \$16.67.
 - D. \$17.67.
10. Which *one* of the following would tend to reduce a firm's P/E ratio?
- A. The firm decreases its financial leverage significantly.
 - B. The firm permanently increases its return on equity.
 - C. The level of inflation is expected to rise to double digit levels.
 - D. The rate of return on Treasury bills decreases.
11. Consider a five-year bond with a 10 percent coupon that has a present yield-to maturity of 8 percent. If interest rates remain constant, one year from now the price of this bond will be:
- A. higher.
 - B. lower.
 - C. the same.
 - D. cannot be determined.
12. An investment in a coupon bond will provide the investor with a return equal to the bond's yield to maturity at the time of purchase if:
- I. the bond is not called for redemption at a price that exceeds its par value.
 - II. all sinking fund payments are made in a prompt and timely fashion during the life of the issue.
 - III. the reinvestment rate is the same as the bond's yield to maturity.
- A. I only.
 - B. III only.
 - C. I and II only.
 - D. II, and III only.
13. The interest rate risk of a noncallable bond is *most likely* to be positively related to the:
- A. risk free rate.
 - B. bond's coupon rate.
 - C. bond's time to maturity.
 - D. bond's yield to maturity.
14. The embedded option that is *least likely* to be a benefit to the issuer of debt securities is the:
- A. floor on a floater.
 - B. right to call the issue.
 - C. accelerated sinking fund provision.
 - D. right of the underlying borrowers in a pool of loans to repay an amount in excess of the scheduled principal payment.
15. All else being equal, which *one* of the following bonds *most likely* would sell for the highest price (or lowest yield)?
- A. Callable debenture.
 - B. Puttable mortgage bond.
 - C. Callable mortgage bond.
 - D. Puttable debenture.

國立中山大學九十二學年度碩士班招生考試試題

科目： 財務管理(財管所)

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16. Which of the following statements about "short selling" is TRUE?
- A. A short position may be hedged by writing call options.
 - B. A short position may be hedged by purchasing put options.
 - C. Short sellers may be subject to margin calls if the stock price increases.
 - D. Stocks that pay large dividends should be sold short before the ex-dividend date and bought afterward to take advantage of the large price decline in a short time period.
17. The minimum data required to calculate the implied forward rate for 5 years beginning 2 years from now would be:
- A. spot rates at 6-month intervals for the 7-year period.
 - B. spot rates at 1-year intervals for the 7-year period.
 - C. the 2-year and 7-year spot rates.
 - D. spot rates at 6-month intervals for 2 years and the 7-year spot rate.
18. An investor buys two calls and one put on ABC stock, all with a strike price of \$45. The calls cost \$5 each, and the put costs \$4. If the investor closes the position when ABC is priced at \$55, the investor's *per share* gain or loss is:
- A. \$4 loss.
 - B. \$6 gain.
 - C. \$10 gain.
 - D. \$20 gain.
19. An investor buys a call option with a \$25 exercise price priced at \$4 and writes a call option with a \$40 exercise price priced at \$2.50. If the price of the stock increases to \$50 at expiration and the options are exercised on the expiration date, the net profit at expiration (ignoring transaction costs) is:
- A. \$ 8.50.
 - B. \$13.50.
 - C. \$16.50.
 - D. \$23.50.
20. Two parties enter a three-year, plain-vanilla interest rate swap agreement to exchange the LIBOR rate for a 10 percent fixed rate on \$10 million. LIBOR is 11 percent now, 12 percent at the end of the first year, and 9 percent at the end of the second year. If payments are in arrears, which of the following characterizes the *net cash flow* to be received by the *fixed-rate payer*?
- A. \$100,000 at the end of year 2.
 - B. \$100,000 at the end of year 3.
 - C. \$200,000 at the end of year 2.
 - D. \$200,000 at the end of year 3.

國立中山大學九十二學年度碩士班招生考試試題

科目：財務管理(財管所)

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貳、問答題

- 一、有人說：「財務管理不外就是處理『時間』與『風險』等性質的問題。」若是，請問其處理原則為何？若不是，請說明它主要為處理那些問題。如何處理？（十分）
- 二、隨著經濟環境的演變，營運資金之管理愈形重要。甚麼是營運資金管理？要如何做才能有效率地協助企業發展？營運資金管理有那些新做法？（十五分）
- 三、近年股市指數大幅下跌，傳說平均每年下跌率為 35%。在這種情形下，企業如何處理其資本預算問題？（十五分）
- 四、近來，金控公司多進行庫藏股購置。請分析並推測它們這樣做的目的。（十分）

第一部份(共 50%)

- 今有 16 個羽毛球隊參加中山盃比賽，賽程採雙淘汰制，意即任一球隊輸了兩場就淘汰出局，主辦單位至少須安排幾場比賽才可以產生冠軍？(5 分)
A. 8 場 B. 16 場 C. 24 場 D. 30 場
- 假設股票市場表現與未來經濟景氣的關係如下表：

經濟景氣	發生機率	股市表現	股市表現之條件機率
繁榮	25%	上漲	70%
		下跌	30%
持平	50%	上漲	55%
		下跌	45%
低迷	25%	上漲	20%
		下跌	80%

- 股市上漲的機率有多少？(5 分)
 - 若股市上漲，則其發生在經濟景氣低迷時的機率有多少？(5 分)
- ABC 股票的期望報酬率為 8%、標準差為 20%，XYZ 股票的期望報酬率為 15%、標準差為 30%，兩者間報酬率的相關係數為 0.3。則兩者所形成的投資組合中何者將使投資人的效用函數 $U = R_p - 0.5\sigma_p^2$ 極大化？(10 分)
其中
 R_p ：投資組合的期望報酬率
 σ_p^2 ：投資組合的報酬率變異數
- 某甲提議簡易樂透彩玩法如下：號碼球 1 號至 30 號共計 30 顆，每次抽取 4 顆，取出後不放回，若出現兩組連號則可得獎金 10 萬元。如不考慮稅捐、公益款、或其他費用等，依機率而言，理論的彩券售價應為多少元？(10 分)
說明：[1、2、3、4]與[1、2、4、5]兩種結果皆為兩組連號，而[1、3、4、5]僅能視為一組連號。
- 中山大學財管所 92 級班某同學論文發現台灣上市公司股價存在 PER 交易策略，意即 P/E (股價除以每股盈餘，或稱本益比)較高的股票其報酬率明顯高於 P/E 較低的股票報酬率。請擬定適當的假說檢定程序，並簡述其所需資料、統計方法等主要步驟。(15 分)

第二部份(共 50%)

1. 是非題

甲. In the Classical Linear Regression Model, multicollinearity leads to bias, not in the estimation of regression coefficients themselves, but rather in the estimation of their variances. (5 分)

乙. Measurement errors in a dependent variable create bias in OLS estimates. (5 分)

2. Data from a randomized block design (隨機集區設計) of ANOVA (變異數分析) are shown in the following table.

	Treatment Levels			
	1	2	3	4
Block 1	5	2	3	8
Block 2	7	4	3	5
Block 3	4	3	1	9

甲. Using $\alpha = 0.05$, the calculated F value for the treatments null hypothesis is ? (5 分)

乙. With $\alpha = 0.05$, the calculated F value for the blocking effects null hypothesis is ? (5 分)

3. A person wishes to compare the means of three populations. The data is ordinal. Which of the following should be used? (5 分)

- A. one-way analysis of variance
- B. Kruskal-Wallis
- C. Wilcoxon
- D. Mann-Whitney

4. The Spearman rank correlation coefficient for the following set of data is ? (5 分)

X	21	22	35	32	33
Y	18	24	28	22	35

5. Ray Crofford is evaluating investment alternatives for the \$100,000 which he inherited from his grandfather. His investment advisor has identified four alternatives and constructed the following table which shows expected profits (in \$10,000's) for various market conditions and their probabilities. (5 分)

Investment	Market Condition		
	Bull (.5)	Neutral (.3)	Bear (.2)
T-Bills	3	3	3
Stocks	21	11	-30
Bonds	15	4	-3
Mixture	13	6	-10

If Ray uses the Expected Monetary Value criterion, the appropriate choice is ____.

- A. T-Bills
 B. Stocks
 C. Bonds
 D. Mixture
6. Hope Hernandez, Marketing Manager of People's Pharmacy, Inc., wants a regression model to predict sales in the greeting card department. Her data set includes two qualitative variables: the pharmacy neighborhood (urban, suburban, and rural), and lighting level in the greeting card department (soft, medium, and bright). The number of dummy variables needed for "lighting level" in Hope's regression model is _____. (5 分)
- A. 1
 B. 2
 C. 3
 D. 4
7. In a study of the determination of prices of final output at factor cost in the UK, the following results were obtained on the basis of annual data for the period 1951-1969 in a log-linear model:

$$\ln PF_t = 2.033 + 1.273 \ln W_t - 0.521 \ln X_t + 1.256 \ln M_t + 0.028 \ln M_{t-1} + 0.121 \ln PF_{t-1}$$

(0.992)
(0.127)
(0.099)
(0.024)
(0.039)
(0.119)

$$R^2 = 0.984 \quad d = 2.54$$

Where PF = prices of final output at factor cost, W = wages and salaries per employee, X = gross domestic product per person employed, M = import prices, M_{t-1} = import prices lagged 1 year, and PF_{t-1} = prices of final output at factor cost in the previous year

- 甲、Please explain the coefficient of W_t . (5 分)
- 乙、Please comment: "Since for 18 observations and 5 explanatory variables, the 5% lower and upper d values are 0.71 and 2.06, the estimated d values of 2.54 indicates that there is no positive autocorrelation." (5 分)