考試科目	經濟學	系所別	財政系	考試時間	2月2日(五)第一節

Multiple Choice Questions (30%)

1.

Data shows that United States college students purchase more e-books than German college students. Assuming that all students have identical preferences for e-books and textbooks, what is the likely explanation for this result?

A) Taxes on textbooks are higher in the United States than taxes on textbooks in Germany.

B) Taxes on textbooks are lower in the United States than taxes on textbooks in Germany.

C) The price of textbooks is cheaper in the United States than textbooks in Germany.

D) Both A and C.

2.

In the short run, a perfectly competitive firm <u>NEVER</u>

A) earns an economic profit.

B) incurs a loss greater than its total fixed costs.

C) produces where $MR = MC$.

D) earns a normal profit.

3.

When insurance companies offer fair insurance,

A) risk-averse agents always purchase it.

B) risk-neutral agents never purchase it.

C) risk-loving agents always purchase it.

D) nobody would purchase fair insurance.

4.

Suppose twenty neighbors share a park. One of the neighbors, Al, leaves trash in the park. This bothers the other neighbors. According to Coase's Theorem, assigning the property rights to the park to Al

A) will achieve the socially optimal quantity of trash.

B) will result in zero trash being dumped in the park.

C) might still not achieve the social optimum since coordinating the other nineteen neighbors can be costly.

D) is unfair.

備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。

考 試 科 目	經濟學	系 所 別	財政系	考 試 時 間	2 月 2 日(五) 第一節

5.
Firms that seek to avoid hiring lazy workers that assert they are hardworking are trying to avoid
A) adverse selection.
B) moral hazard.
C) screening.
D) signaling.

6.
The IS curve becomes steeper when:
A) government spending is relatively small.
B) the income tax rate in the current period is relatively small.
C) current changes in the real interest rate cause large changes in current real output.
D) changes in the current real interest rate cause small changes in current demand.
E) none of the above.

7.
Suppose the minimum wage decreases. Given this event, we would expect which of the following to occur?
A) a reduction in the price level and an increase in output in the medium run
B) an increase in the aggregate price level as output increases
C) an increase in the interest rate in the medium run
D) none of the above

8.
The "Lucas critique" is that
A) policy changes affect expectations, which in turn affect the impact of the policy.
B) increasing unemployment to reduce inflation is more costly to society than economists traditionally think.
C) in the medium run, output always returns to its natural level.
D) macro data based on government surveys is inaccurate.
E) policy changes can affect the economy only when they are expected.

考 試 科 目	經濟學	系 所 別	財政系	考 試 時 間	2 月 2 日(五) 第一節

9.
Suppose a liquidity trap situation exists. Which of the following is most likely to occur if taxes are cut?
A) no change in output and no change in the interest rate
B) an increase in output and an increase in the interest rate
C) an increase in output and little change in the interest rate
D) an increase in output and a reduction in the interest rate
E) none of the above

10.
The debt-to-GDP ratio is higher,
A) the lower the real interest rate
B) the lower is the ratio of the primary deficit to GDP
C) the higher is the growth rate of output
D) all of the above
E) none of the above

Essay Questions (70%)

1. Consumer Theory (15%)

For the following three questions, please answer "True" or "False" and explain why.

a) Consumers do not prefer gifts-in-kind to cash gifts. (5%)

b) A tax cut will unambiguously lower income-tax revenue. (5%)

c) Your preference can be represented by any two total utility functions, say, $U(x) = x$ and $V(x) = x^{0.5}$, if their preference order is totally the same. Mathematically speaking, this can be shown as $V(x) = F(U(x))$; $F' > 0, F'' \gtreqless 0$, which means that we can obtain your another total utility function $V(x)$ by simply taking a positive monotonic transformation $F(U(x))$ on your original total utility function $U(x)$. Given the above information, do you think it's true that the above two total utility functions $U(x) = x$ and $V(x) = x^{0.5}$ that both represent your preference both exhibit the property of diminishing marginal utility that is commonly observed in our daily lives? (5%)

考試科目	經濟學	系所別	財政系	考試時間	2月2日(五) 第一節

2. Monopolistic Competition (15%)

Ike, Inc., a firm in monopolistic competition, produces sport shoes of low- to medium-end. The company's economists know that it can sell no shoes at \$80, and for each \$10 cut in price, the quantity of shoes it can sell increases by 50 a day. This relationship continues to hold until the price falls to \$20. The firm's total fixed cost is \$3,000 a day. Its marginal cost is constant at \$20 per pair of shoes.

a) Draw the demand curve faced by the firm and its marginal revenue curve. Also draw Ike's marginal cost and average total cost curves. (4%)

b) What quantity of shoes (in pairs) should Ike produce to maximize its profit? What price should it charge? (4%)

c) What is the firm's short-run economic profit or loss? (3%)

d) In the long run, what will happen to the demand for Ike's shoes, the quantity of shoes sold, the price charged, and the firm's economic profit? (4%)

3. AD-AS and IS-LM models (20%)

Recently the minimum wage issue has drawn attention since President Tsai said that it is her dream that youngsters are able to receive 30k as their starting salaries. Assume that Taiwan's output is initially at potential level. Based on your understanding of the AS-AD and the IS-LM models, graphically illustrate and explain what effects an increase in the minimum wage will have on the economy in terms of the output, price level, unemployment rate, real interest rate, and investment. In your graphs, clearly illustrate the short-run and medium-run equilibria. (15%) Also include in your answer an explanation of the effects of this change in the minimum wage on the labor market and the equilibrium real wage. (5%)

4. Solow Model (20%)

a) During the latter half of the 1990s, the U.S. saving rate decreased. Will this reduction in the saving rate have a permanent effect on the rate of growth of output per worker? Explain. (5%)

b) The U.S. government plans to encourage its people to save more. Use a Solow Model diagram to illustrate and explain its effects. Please clearly label all curves and equilibria in your graph. (10%)

c) Suppose policy makers instead wish to increase the steady state consumption per worker. Explain what must happen to the saving rate to achieve this objective. (5%)

國立政治大學 107 學年度 碩士班 招生考試試題

考試科目	會計學	系所別	財政學系	考試時間	2 月 2 日(五)第三節

一、簡答題（36%）：請於答案卷中作答，並列示計算過程。

1. 甲公司於 2017年年初按$1,930,000 購入乙公司所發行之債券，該債券面額為2,000,000，4 年後到期。甲公司將其分類為「備供出售之金融資產」。2017年年底該債券評價前之帳面金額為$1,950,000，當時公允價值為$1,900,000。2018年年初，乙公司受金融海嘯影響，財務週轉不靈，甲公司預期該投資之可回收金額為$1,610,000。甲公司於2018年應認列多少減損損失？

2. 丙公司 2018年1 月1 日、7 月1 日及10 月1 日分別以市價發行新股400,000 股、600,000 股及100,000 股。另1 月1 日發行10%、面額$20 的可轉換特別股20,000 股，每100 股特別股可換80 股普通股，9 月1 日發行8%、面額$2,000 的可轉換公司債1,000 張，每張可轉換成普通股55 股。假設無反稀釋作用存在，試問丙公司2018年度稀釋每股盈餘之普通股加權平均流通在外股數為何？

3. 丁公司 4 月30 日銀行存款正確餘額為$570,000。4 月底在途存款為$70,000，未兌現支票為$130,000。因客戶銀行存款不足，4 月份遭退票$18,000，其中$13,000 已於4 月底前存入。4 月30 日銀行誤將兌付丁二公司之支票$10,000 記入丁公司帳戶，銀行尚未發現此項錯誤。4 月份銀行代收票據$15,000，並扣除代收手續費$600。丁公司4 月30 日銀行對帳單上之存款餘額為：

4. 戊公司 2018 年度稅前財務所得為$675,000，其中包含污水罰鍰$15,000 及折舊費用$315,000。戊公司所得稅申報書中採定率遞減法之折舊金額為$495,000。戊公司2018年之課稅所得為何？

5. 己公司會計人員於 2017年底編製財務報表時，發現下列事項：將收到的2018年租金$48,000 列入2017年收入，2016年的折舊費用低列$120,000，2016年期初存貨低估$80,000，2017年期初存貨高估$50,000，2017年底支付2018年保險費$36,000 時認列為2017年費用。若不考慮所得稅影響，上述錯誤對2017年底資產總額之影響為何？

6. 庚公司與辛公司於2017 年初各以$20,000,000 分別購入某大樓頂樓相鄰之 A 單位與 B 單位。兩公司均將其所購單位分類為採公允價值模式衡量之投資性不動產，2017年底兩單位之公允價值相同，2018年底 A 單位之公允價值較 B 單位之公允價值低$340,000。若庚公司對 A 單位採直線法提列折舊，估計耐用年限 8 年，無殘值，則相較於辛公司對 B 單位採年數合計法提列折舊，估計耐用年限 5 年，無殘值，庚公司與辛公司2018年底之保留盈餘差異數為何？（不考慮所得稅）

備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。

國立政治大學 107 學年度 碩士班 招生考試試題

考試科目	會計學	系所別	財政學系	考試時間	2月2日(五)第三節

二、(18%) A 公司於2017年1 月1 日發行3 年期公司債，面額$500,000，票面利率3%，市場利率4%，每年年底付息，試作：

1. A 公司於2017 年發行公司債之價格。(四捨五入至元)
2. A 公司於2017 年應攤提之折（溢）價。(四捨五入至元)
3. A 公司於2017 年應作之相關分錄。

三、(22%) 由於公司經營環境之轉變，B公司懷疑其生產運動器材之設備價值可能已經發生減損。B公司2017 年12 月31 日該設備相關資料為：成本$5,000,000，累計折舊（截至2017 年12 月31 日）$2,100,000，淨公允價值$1,075,000，預期未來現金流入折現值$1,200,000，該設備預計尚可使用四年，無殘值，按年數合計法提列折舊。該設備曾辦理資產重估價，帳列未實現重估增值為$1,250,000。該設備至2018 年底尚未出售，淨公允價值$1,420,000，預期未來現金流入折現值$1,150,000。

試求：

1. B公司2017 年底該設備之會計分錄借記減損損失金額為何？
2. B公司2018 年底該設備之折舊費用為何？該設備之帳面金額為何？
3. B公司2018 年底該設備價值減損之相關分錄。

四、(24%) C公司新進會計人員以間接法編製現金流量表，2018 年度相關交易及會計資料如下：

出售交易目的證券投資（售價）$500,000，購買一台機器付款$1,400,000，採權益法之長期股權投資收到股利$880,000，發行公司債$2,000,000，支付現金股利$600,000，交易目的證券投資評價損失$500,000，簽發票據$1,000,000 取得一筆土地。X8 年度折舊費用$85,000，權益法認列投資收益$350,000。X8 年度應收帳款淨額減少$162,000，存貨下降$28,000，應付帳款增加$90,000。X8 年度淨利$162,000，期初現金餘額$500,000。試求：

1. C公司2018 年度之營業活動、投資活動與籌資活動現金流量分別為何（須標示現金流入或流出）？
2. C公司2018 年度期末現金餘額為何？

考試科目	統計學	系所別	財政	考試時間	2月2日(五)第三節

1.Suppose a population of working couples has the bivariate distribution of income shown in the following Table: (15 points, 7.5 points/each)

Table: Joint Distribution of Husband's Income X and Wife's Income Y Annually

x \ y	10	20	30	40	P(x)
10	0.20	0.04	0.01		0.25
20	0.10	0.36	0.09		0.55
30		0.05	0.10		0.15
40				0.05	0.05
P(y)	0.30	0.45	0.20	0.05	

Calculate the standard deviation of:

(a)Total income S=X+Y

(b)Total pension contribution W= 0.10X+0.20Y

2.I am thinking of buying a used Q-car at Honest Ed's. In order to make an informed decision, I look up the records of Q-cars in an auto magazine, and find that, unfortunately, 30% have faulty transmissions. To get more information on the particular Q-car at Honest Ed's, I hire a mechanic who can make a guess on the basis of a quick drive around the block. Of course, he is not always right; but he does have an excellent record: Of all the faulty cars he has examined in the past he correctly pronounced 90% "faulty"; in other words, he wrongly pronounced only 10% "OK." He has almost as good a record in judging good cars: He has correctly pronounced 80% "OK," while he wrongly pronounced only 20% "Faculty". (15 points, 5 points/each)

What is the chance that Q-car I am thinking of buying has a faulty transmission:

(a)Before I hire the mechanic?

(b)If the mechanic pronounced it "faulty"?

(c)If the mechanic pronounced it "OK"?

3.True or False. Explain Why. (30 Points, 6 point/each)

(a)Both θ and δ are estimator of μ. If the variance of θ is smaller than the variance of δ, then θ is a more efficient estimator than δ.

(b)The sample mean is a consistent estimator of the population mean.

(c)The probability of type I error = 1 – the probability of type II error

(d)The variance of X = μ^2 – the expected value of X^2 (note: μ is population mean)

(e) θ is the estimator of μ. The sampling error = E(θ) – μ.

備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。

考試科目	統計學	系所別	財政	考試時間	2月2日(五)第三節

4.A large estate wants to use regression analysis to estimate fair market value of the land. The following model was fit to data collected for n=20 properties, 10 of which are located near a cove. (40 points)

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_1X_2+\beta_4X_1^2+\beta_5X_1^2X_2+\varepsilon$$

where $Y=$ Sale price of property in thousands of dollars

$X_1=$ Size of property in thousands of square feet

$X_2=$ 1 if property located near cove, 0 if not

The partial output is shown as below:

R Square	0.970

ANOVA

	df	SS	MS	F	Signif F
Regression	___	28324	5664	___	0.0001
Residual	___	1279	91		
Total	___	29063			

	Coefficient	Standard error	t Statistic	P-value
Intercept	-32.1	35.7	___	0.3834
Size	12.2	5.9	___	0.0594
Cove	-104.3	53.5	___	0.0715
Size*Cove	17.0	8.5	___	0.0661
SizeSquare	-0.3	0.2	___	0.2204
SizeSquare*Cove	-0.3	0.3	___	0.2749

(a)Please fill blank spaces. (Numbers have to be written in the answer sheet) Explain how you find these numbers. (10 points)

(b) How will you explain estimated number of R Square shown in the table? (4 points)

(c)Is the overall model statistically adequate at a 0.05 level of significance for predicting sale price? Explain why. (5 points)

(d)Is (Are) there dummy variable(s) in this regression? Which one(s)? Is there a multicollinearity problem in the regression? If yes, what is it? (6 points)

(e)Which of explanatory variables have statistically significant effects on sale price of property at 10% significance level? Explain why. (5 points)

(f)Explain the economic meanings of estimated coefficients of all explanatory variables. (10 points)

備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。

國立政治大學 一〇七 學年度 碩士班 招生考試試題

考試科目	財政學	系所別	財政學系	考試時間	2月2日(五)第3節

1. 假設，N_b 為領取退休福利金的人數，B 為每位退休者的平均退休福利金，N_w 為當前投保年金的勞動者人數，W 為每位勞動者的平均投保薪資、t 為勞動者為投保年金所繳納的租稅稅率。請回答以下問題：（共 15%）

（1）在隨收隨付（pay-as-you-go）的年金制度下，若要使一年中所收到的年金租稅收入總額等同於所發放的退休福利金總和，則稅率 t 應該為何？（3%）

（2）當人口老齡化使得每一位退休者須要更多人來照顧時，而政府希望能在不提高稅率的情況下卻還能達到年金制度的收支平衡，請問政府可以採取哪些政策？（12%）

2. 何謂 Ramsey 法則（5%）？何謂逆彈性法則（inverse elasticity rule）（5%）？請以數學證明兩者之間的關係（5%）。

3. 小張每年要去行天宮拜拜 10 次，他每坐一趟捷運去行天宮要花費 75 元。如果捷運價格提高他就會轉而搭公車，雖然搭公車會慢五分鐘，卻只要花費 50 元。市長考慮在 t 年將捷運系統更新，此更新計畫將會使搭捷運去行天宮的時間減少 10 分鐘，但是捷運票價卻要增加 40 元以支應成本。降低行車時間與票價上漲將在 t 年內開始，並一直到永遠。而市場利率為 0.25。（共 20%）

（1）就小張而言，此計畫的成本與效益的現值各為何？（4%）

（2）如果台北市有 55,000 與小張一樣的中產階級，另有 5,000 貧窮人口。這些貧窮人口不是失業就是在家附近工作，所以不會搭乘任何大眾運輸工具。請問就台北市而言，此計畫整體的成本與效益各為何？而此計畫的淨現值又為何？（6%）

（3）某些市議員另外提出一項計畫，先對每一位中產階級課徵 125 元的即時稅（immediate tax）（即在 t 年課徵），以提供貧窮人口在之後的兩年（t+1 與 t+2 年）可以合法免費搭乘。對貧窮人口而言，此合法免費搭乘的每年價值達 6,250,000 元（假設此價值在此兩年的每一年年底獲得）。請問，此項計畫的淨現值為何？（4%）

（4）如果台北市一定要在捷運更新計畫與合法免費搭乘計畫中擇一，請問要選擇何者？（2%）

（5）對於每一位窮人所收到每一元應該給予多少的分配權重（distributional weight），才可以讓這兩個計畫的淨現值相等？也就是，窮人獲得一元的重要性是中產階級獲得時的幾倍？請務必清楚解釋你的答案（4%）

4. 立法院臨時會 2017 年 7 月 5 日完成《前瞻基礎建設特別條例》三讀，總預算調整為 4 年 4200 億。（共 20%）

（1）請問此項政府支出的增加，可以用哪兩種方式進行財務上的融通（4%）？並請詳細說明此兩項融通方式的意義。（4%）

（2）究竟應該採取哪一種融通方式，請就三個面向進行分析與考量。（12%）

備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。

考試科目	財政學	系所別	財政學系	考試時間	2 月 2 日(五)第 3 節

5. 假設 A 與 B 兩人分配 200 公斤的食物。若 A 分配到 F_A 的數量，B 分配到 F_B 數量，則 A 的效用函數為 $U_A=30\times F_A^{0.5}$，而 B 的效用函數為 $U_B=90\times F_B^{0.5}$。（共 12%）
（1）如果 A、B 兩人平均分配食物，請問兩者的效用各為何？（4%）
（2）如果社會福利函數為 U_A+U_B，A、B 兩人要如何分配食物才能極大化社會福利？（4%）
（3）假設 A 與 B 在分配食物後獲得相同的效用，請問 A、B 兩人要如何分配食物？（4%）

6. 梁小姐目前為上市公司的高階主管，年薪600萬，但她生病的風險是10%，且因為生病會使其總收入損失240萬。梁小姐於是以26萬元給保險公司為自己購買全險（即當她生病時，保險公司會賠償她因生病而產生的全部損失）以防萬一。假設梁小姐是風險趨避者，其效用函數為 $U=0.1\times I^{1/2}$。其中，U為總效用，I為總收入。（共18%）
（1）在未購買保險的情況下，請計算梁小姐的總收入期望值 $Y=E(I)$、總收入期望值的效用 $U(Y)$、以及效用的期望值 $E(U)$？並請將 Y、$U(Y)$、$E(U)$標示在梁小姐的效用曲線上。（6%）
（2）請計算此全險的精算公平保費（actuarially fair insurance premium）為何？（2%）
（3）梁小姐的最高願意支付的保費為何？（4%）
（4）梁小姐的風險貼水（risk premium）為何？（4%）
（5）此全險的附加保費（loading fee）為何？（2%）

備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。