考試科目	财政学	所別	财政所 2131	考試時間	3 月 19 日 星期 日 第 1 節

本科目之選擇題請在答案卡上作答，否則不予計分。

財政學試題（50%）

一、 單一選擇題，請選出一個正確或最適當的答案，在電腦卡上作答。共 50 題，每題一分。

1. 日治時代的預算，是以那一天爲年度開始日期？
(A) 1 月 1 日 (B) 4 月 1 日 (C) 7 月 1 日 (D) 10 月 1 日

2. 日治時代的預算制度：
(A) 沒有特別預算的制度 (B) 沒有決算的制度 (C) 動用第一預備金，須事先請求議會承諾 (D) 沒有追加預算的制度

3. 日治時代，台灣財政何時開始獨立，無須日本本國「一般會計」之補助？
(A) 1904 年 (B) 1914 年 (C) 1924 年 (D) 1934 年

4. 曾推動興建台灣縱貫鐵路，後來成爲中國滿洲鐵道總裁的是
(A) 清水照子 (B) 八田與一 (C) 後藤新平 (D) 樺山資紀

5. 台灣縱貫鐵路，於何年全線 (基隆－高雄) 通車？
(A) 1898 年 (B) 1908 年 (C) 1918 年 (D) 1928 年

6. 台灣實際經理中央公債之發售及還本付息業務的是何者？
(A) 央行業務局 (B) 央行國庫局 (C) 財政部賦稅署 (D) 財政部國庫署

7. public utility 的中文爲
(A) 社會福利 (B) 公共效益 (C) 公共選擇 (D) 公用事業

8. 自償率的英文爲
(A) self-liquidation ratio (B) self-finance ratio (C) self-compensation ratio (D) self payback ratio

9. 自償率的計算最接近財政學上的哪一個觀念？
(A) 社會貼現率 (B) 益本比 (C) 資產報酬率 (D) 股權報酬率

10. 有採用民間參與，在計算自償率時，
(A) 應以民間之立場計算之 (B) 應以政府之立場計算之 (C) 自償率一定大於 0 (D) 自償率一定小於 1

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11. 禽流感的問題是屬於財政學上何種主題？
(A) 外部性 (B) 公共財 (C) 社會福利 (D) 公共投資

12. 下列何種矯正外部性方法，既能管制污染總量，而不管產生污染家數之多寡，又能隨物價上漲而提高政府之收入？
(A) 拍賣污染許可權 (B) 課污染稅 (C) 減產補貼 (D) 直接管制

13. 財政學上最適的污染量爲
(A) 零污染 (B) 邊際社會成本等於邊際社會效益時 (C) 減產補貼無法達到最適污染量 (D) 平均社會成本等於平均社會效益時

14. 台灣下列建設之法令依據，何者爲是？
(A) 101 大樓是按促進民間參與公共建設法 (促參法) (B) 君悅飯店是按促參法 (C) 高捷是按獎參條例 (D) 高鐵是按促參法

15. 成本效益評估公共投資計畫時，所採用的貼現率，通常爲
(A) 零，或等於通膨率 (B) 市場利率 (C) 加權平均資金利率 (D) 市場利率予以減碼

16. 設今年底高雄市長選戰爲藍綠對決。若藍軍贏，甲給乙新台幣 150 萬元，若綠軍勝出，則乙給甲 150 萬元，假設二方得勝的機率各半，則此賭局
(A) 公平 (B) 不公平 (C) 不一定公平 (D) 無從判定

17. 承上題，這是依什麼數字來判定？
(A) 標準誤 (B) 標準差 (C) 期望值 (D) 變異數

18. 承上題，甲和乙並非政治狂熱者，面對此賭局， 通常其反應是
(A) 樂意奉陪 (B) 不願爲之 (C) 效用一定增加 (D) 求之不得

19. 承上題，這是因爲
(A) Ramsey 法則 (B) 垂直公平 (C) 水平公平 (D) 邊際效用遞減

20. 承上題，若輸贏金額改爲 100 元，則其行爲結果可以說明
(A) 風險共攤 (B) 風險聚合 (C) 財政幻覺 (D) 道德冒險

21. 台灣最早的水力發電廠－龜山電廠，建於 1905 年，其後
(A) 一直是民營 (B) 由民營轉公營 (C) 由公營轉民營 (D) 一直

考試科目	財政學	所別	財政所 2131	考試時間	3月19日 星期日 第1節

是公營

22. 日治時代，台灣哪一計畫成爲「亞洲第一」、「世界第七」的大型水力電廠？
(A) 日月潭 (B) 大甲潭 (C) 烏山頭 (D) 石門水庫

23. 世界最早的捷運完成於
(A) 1843 年 (B) 1863 年 (C) 1883 年 (D) 1903 年

24. 台北捷運在 1990 年代以多少億元興建完成？
(A) 6666 億 (B) 5555 億 (C) 4444 億 (D) 3333 億

25. 在國際公共財的架構下，則本國國防支出較似何種觀念？
(A) 殊價財 (B) 俱樂部財 (C) 公共中間財 (D) 免費財

26. 下列何者不在公共選擇的「鐵三角」之中？
(A) 學者專家 (B) 利益團體 (C) 官僚 (D) 民意代表

27. J. Buchanan 認爲回復到政府預算平衡的方法是
(A) 教育啓迪 (B) 憲法規定 (C) 道德自律 (D) 民眾自覺

28. 福利經濟學中，社會無異曲線與效用可能線
(A) 效用可能線上的每一點都符合公平 (B) 社會無異曲線上的每一點都符合效率 (C) 符合效率的點，其社會福利水準必大於不符合效率者 (D) 符合效率的點，其社會福利水準不一定大於不符合效率者

29. voucher system 是爲了改善何種問題？
(A) 高等教育 (B) 義務教育 (C) 全民健保 (D) 國民年金

30. 台灣各級政府支出淨額結構中 1999－2003 共五年度平均，以何者所占比重最高？
(A) 一般政務 (B) 教育科學文化 (C) 經濟發展 (D) 社會福利

31. 1999－2003 年五年平均，台灣各級政府支出淨額，教育科學文化支出約占
(A) 10% (B) 15% (C) 20% (D) 25%

32.公共投資的進口貿易財貨之價格如何衡量？
(A) 有關稅時，影子價格爲世界價格 (B) 有關稅時，國內價格低於世界價格
(C) 採配額時，影子價格爲世界價格 (D) 採配額時，國內價格等於世界價格

考試科目	財政學	所別	財政所2131	考試時間	3月19日 星期日	第1節

33. 各機關依法律增設新機關時，得請求提出
(A) 分配預算 (B) 法定預算 (C) 特別預算 (D) 追加預算

34. 2003 年度台灣各級政府收支淨額占 GNP 的
(A) 36% (B) 31% (C) 26% (D) 21%

35. 2003 年台灣的國營事業盈餘，以何者最多？
(A) 中央銀行 (B) 中鋼 (C) 中華電信 (D) 台電

36. 日治時代何人在台灣提倡「鴉片漸禁論」，結果使得專賣鴉片的收益成爲台灣總督府的一大財政收入？
(A) 後藤新平 (B) 八田與一 (C) 清水照子 (D) 伊藤博文

37. 依文獻記載，下列台灣那一座燈塔是由民間興建、管理經營的？
(A) 台灣北部三貂角燈塔 (B) 淡水的望高樓燈塔 (C) 澎湖的西嶼燈塔 (D) 屏東鵝鑾鼻燈塔

38. 在 1974 年何人提及私人成功的提供典型公共財 (英國的燈塔) 的案例？
(A) Coase (B) Hicks (C) Samuelson (D) Lindahl

39. 公營事業民營化之後定價採 CPI－x 是因爲
(A) 美國所採用 (B) 日本所採用 (C) 促使業者降低成本 (D) 顧及國庫收入

40. 最近三年來，財政部統計處編印的《財政統計年報》其封面顏色爲
(A) 白色 (B) 藍色 (C) 綠色 (D) 黃色

41. 美國有人主張：聯邦政府制定「可轉讓污染許可權證」是何者的運用？
(A) Ramsey's rule (B) Coase Theorem (C) Ricardian Equivalence (D) Wagner's rule

42. 令投資計畫之淨現值爲 0 的貼現率，稱爲
(A) 社會貼現率 (B) 自償率 (C) 內部報酬率 (D) 加權平均資金成本率

43. 若在二維座標畫出效用可能線，則其橫軸所表示者爲：
(A) 消費 X 財貨的數量 (B) A 人的效用 (C) 生產 X 財貨的數量 (D) A 人的所得

考試科目	財政學	所別	財政所 2131	考試時間	3月19日 星期日	第1節

44. P. A. Samuelson 的純粹公共財模型，可以寫爲

$L = u_A(X, Y_A) + \lambda_1[\overline{u_B} - u_B(X, Y_B)] + \lambda_2 F(X, Y) + \lambda_3(Y - Y_A - Y_B)$，其中的

A, B 爲兩人，而 Y 爲

(A) 公共財 (B) 私有財 (C) 殊價財 (D) 俱樂部財

45. 承上題，$F(X, Y)$ 是爲

(A) 公共財與私有財之效用函數 (B) 公共財與公共財之效用函數

(C) 公共財與私有財之生產函數 (D) 私有財與私有財之效用函數

46. 承上題，爲求取必要條件，應分別對何者微分，並令其爲 0？

(A) $X, \lambda_1, \lambda_2, \lambda_3$ (B) $Y, \lambda_1, \lambda_2, \lambda_3$ (C) X, Y_A, Y_B, Y (D) $X, Y, \lambda_1, \lambda_3$

47. 承上題，求解後，λ_1 的值爲

(A) $-\dfrac{\partial u_A / \partial Y_A}{\partial u_B / \partial Y_B}$ (B) $-\dfrac{\partial u_A / \partial Y_A}{\partial F / \partial Y}$ (C) $\dfrac{\partial u_A / \partial X}{\partial u_A / \partial Y_A}$ (D) $\dfrac{\partial u_B / \partial X}{\partial u_B / \partial Y_B}$

48. 承上題，求解後，λ_2 的值爲

(A) $-\dfrac{\partial u_A / \partial Y_A}{\partial u_B / \partial Y_B}$ (B) $-\dfrac{\partial u_A / \partial Y_A}{\partial F / \partial Y}$ (C) $\dfrac{\partial u_A / \partial X}{\partial u_A / \partial Y_A}$ (D) $\dfrac{\partial u_B / \partial X}{\partial u_B / \partial Y_B}$

49. 承上題，$\dfrac{\partial u_A}{\partial X} - \lambda_1 \dfrac{\partial u_B}{\partial X} + \lambda_2 \dfrac{\partial F}{\partial X}$ 之值

(A) 小於 0 (B) 等於 0 (C) 大於 0 (D) 等於 1

50. 承上題，$\dfrac{\partial F / \partial X}{\partial F / \partial Y}$ 就是

(A) 邊際轉換率 (B) 邊際替代率 (C) 內部報酬率 (D) 社會貼現率。

備考	試題隨卷繳交
命題委員：	94 （簽章）

命題紙使用說明：1.試題將用原件印製，敬請使用黑色墨水正楷書寫或打字（紅色不能製版請勿使用）。
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考試科目	財政學	所別	財政系 2131	考試時間	3月19日 星期日 第1節

二、

1. 消除貧窮、知識與國際公共財 (international or global public goods) 三者間的關聯性爲何? 詳細論述之。(10 分) [註: 妳 (你) 的回答必須包含闡述國際公共財之基本概念。]
2. 一個財力、物力有限的小康家庭育有資質迥異之兩位特殊兒童，一位是天賦異稟、發展無可限量的資優生，另一位則是先天弱勢、發展明顯受限的喜憨兒。如何將家庭中之有限資源分配於這兩位孩童是她 (他) 們雙親必須深思的重大課題。試以 Utilitarian model of redistribution & Rawlsian model of redistribution 繪圖解析並詳細論述之。(10 分)
3. 舉出一個市場失靈 (market failure)、政府失靈 (government failure) 同時發生的實際狀況並詳細描述之。(10 分)
4. (以中文闡述下列此段話的意涵) "The alternative minimum tax, designed more than three decades ago to catch the cagiest of rich tax evaders who used clever deductions to eliminate their income tax, is becoming the feared tax of the middle tax. Typically, people with incomes between \$150,000 and \$300,000 are most vulnerable to the AMT, but sometimes people with moderate incomes get nabbed—especially single parents with many dependents and deductions, salespeople with a lot of unreimbursed business expenses, or investors with certain bonds or other investment gains." (10 分) (quoted from **Chicago Tribune** news: *Escaping the trap of the alternative minimum tax*. November 27, 2005.)
5. True or False. Explain why using any appropriate diagrams.
   (a) A tax imposed on a good with zero elasticity of demand is borne entirely by the consumer. (5 分)
   (b) A tax imposed on a good with a large elasticity of demand has a large excess burden. (5 分)

備考	試題隨卷繳交

命題委員： 95 (簽章)

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考試科目	經濟學	所別	財政系 2131	考試時間	3 月 19 日 星期日	第三節

一、1. 請詳細而嚴謹的說明什麼是完全競爭市場下追求利潤最大生產者的供給函數(supply function)。(15%)

2. 所謂獨占生產者沒有供給曲線(supply curve)的意義是什麼？獨占生產者有生產函數嗎，為什麼？(10%)

二、 Cobb-Douglas $u(X,Y)=X^{\alpha}Y^{\beta}$,

Quasi Linear $u(X,Y)=X+f(Y)$,

Fixed Coefficients $u(X,Y)=\min(aX,\ bY)$

都是教學上常用的效用函數的例子。請分別為這三種效用函數型態導出對應的商品(X 及 Y)需求函數。再說明這三種偏好下需求函數的所得效果、替代效果、和價格效果的特色。(25%)

備考	試題隨卷繳交
命題委員：	96 （簽章） 年 月 日

考試科目	經濟學	所別	財政 2131	考試時間	3月19日 星期日	第三節

三、

1. Explain the worker misperception model. How does it generate an upward sloping aggregate supply curve in the short run? What does it imply about the procyclicality or countercyclicality of the real wage? (10 points)

2. Consider a small open economy in the short run. When is monetary policy more effective in affecting output -- when the exchange rate floats or when the exchange rate is fixed? (10 points)

3. Assume you are an advisor to one of the presidential candidates who is deeply worried about the rapidly expanding trade deficit and its effects on potential voters. Your candidate has asked you to evaluate some policy changes others have suggested that would reduce the trade deficit and mollify potential (labor) voters. These are:

- To increase the marginal tax rate from 0.216 to 0.3 .
- To decrease government expenditures by 100.
- To reduce the money supply by 100.

To answer this query you have available to you the following elements to build a macroeconomic model:

A consumption function: $C = 789.225 + 0.75Y_d - 50P$ ($Y_d = Y - T$, and P = the price level)

A tax function: $T = - 170.15 + 0.216Y$

An investment function: $I = 986.76 + 0.1Y - 50i - 40P$ (i = interest rate, P = the price level)

A money demand function: $i = 82.978 - 0.07M_d$ (where M_d = money demand)

An import function: $M = 328.26 + 0.1Y$

An aggregate supply function: $P = 1.07516 + 0.0001Y$

備考	試題隨卷繳交
命題委員：	97 (簽章)

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考試科目	經濟學	所別	財政 2121	考試時間	3月19日 星期日	第三節

You also know that government expenditures are expected to = \$1,628.7 billion, exports are expected to = \$996.3 billion, and the Central Bank is expected to hold the money supply at \$1,125.4 billion.

(1) Using these elements find the currently expected equilibrium levels of Y, prices and interest rates by deriving an aggregate demand function and combining it with the aggregate supply function. (15 points)

(2) Once you have solved for the equilibrium income and the price level and the interest rate, calculate the trade balance to determine the size of the trade deficit. (5 points)

(3) Calculate by how much each of three suggested policy changes (i.e., increasing the marginal tax rate from 0.216 to 0.3, decreasing government expenditures by 100, and reducing the money supply by 100) would reduce the trade deficit. Assuming that the sole policy goal is the reduction of the trade deficit which policy would you therefore recommend? If this was not the only goal, if, for example, your candidate was also concerned with issues of unemployment, which policy might you recommend? (10 points)

備考	試題隨卷繳交
命題委員：	98（簽章）

考試科目	會計學	所別	財政所 2431	考試時間	3 月 19 日 星期日	第四節

作答方式：爲維護您的權益，請依下列規定作答，未依規定方式作答者，不予計分。

一、選擇題請於答案卷第一頁依下列方式作答

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15

二、問答題及計算題，一律以橫式書寫方式作答，並應清楚列示計算式

一、選擇題(45%)，每題 3 分

1. The balance in the prepaid insurance account before adjustment at the end of the year is $10,000. If the additional data for the adjusting entry is (1) "the amount of insurance expired during the year is $8,500," as compared to additional data stating (2) "the amount of unexpired insurance applicable to a future period is $1,500," for the adjusting entry:

A) the debit and credit amount for (1) would be the same as (2) but the accounts would be different

B) the accounts for (1) would be the same as the accounts for (2) but the amounts would be different

C) the accounts and amounts would be the same for both (1) and (2)

D) there is not enough information given to determine the correct accounts and amounts

2. At the end of the fiscal year, the usual adjusting entry to Prepaid Insurance to record expired insurance was omitted. Which of the following statements is true?

A) Total assets at the end of the year will be understated.

B) Owner's equity at the end of the year will be understated.

C) Net income for the year will be overstated.

D) Insurance Expense will be overstated.

3. Based on the following data, what is the acid-test ratio, rounded to one decimal point?

Accounts payable	$ 30,000
Accounts receivable	60,000
Accrued liabilities	5,000
Cash	30,000
Intangible assets	50,000
Inventory	69,000
Long-term investments	80,000
Long-term liabilities	100,000
Marketable securities	30,000
Fixed assets	670,000
Prepaid expenses	1,000

A)3.4　　B) 3.0　　C) 2.2　　D) 1.8

4. Balance sheet and income statement data indicate the following:

Bonds payable, 8% (issued 1990, due 2015)	$1,200,000
Preferred 8% stock, $100 par (no change during the year)	200,000
Common stock, $50 par (no change during the year)	1,000,000
Income before income tax for year	320,000

備考：試題隨卷繳交

命題委員：　　99　　（簽章）

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2. 書寫時請勿超出格外，以免印製不清。
3. 試題由郵寄遞者請以掛號寄出，以免遺失而示慎重。

考試科目	會計學	所別	財政所	考試時間	3月19日 星期日 第四節

Income tax for year	80,000
Common dividends paid	60,000
Preferred dividends paid	16,000

Based on the data presented above, what is the number of times bond interest charges were earned (round to two decimal places)?

A) 5.67 B)4.33 C)3.24 D)3.50

5. During a period of consistently rising prices, the method of inventory that will result in reporting the greatest cost of merchandise sold is

A) FIFO B) LIFO C) average cost D) Weighted average

6. The AAA Company acquired new machinery with a price of $15,200 by trading in similar old machinery and paying $12,700. The old machinery originally cost $9,000 and had accumulated depreciation of $5,000. In recording this transaction, AAA Company should record

A) the new machinery at $16,700
B) the new machinery at $12,700
C) a gain of $1,500
D) a loss of $1,500

7. Bob, Cindy, and David are partners, sharing income 1:2:3. After selling all of the assets for cash, dividing losses on realization, and paying liabilities, the balances in the capital accounts are as follows: Bob, $50,000 Cr.; Cindy, $40,000 Dr.; and David, $30,000 Cr. How much cash is available for distribution to the partners?

A) $120,000
B) $30,000
C) $40,000
D) $90,000

8. Based on the following data, what is the amount of working capital?

Accounts payable	$ 30,000
Accounts receivable	65,000
Accrued liabilities	7,000
Cash	20,000
Intangible assets	40,000
Inventory	72,000
Long-term investments	100,000
Long-term liabilities	75,000
Marketable securities	36,000
Notes payable (short-term)	20,000
Property, plant, and equipment	625,000
Prepaid expenses	2,000

A) $238,000
B) $138,000
C) $178,000
D) $64,000

備 考	試題隨卷繳交
命題委員：	100 （簽章）

考試科目	會計學	所別	財政所 2131	考試時間	3月19日 星期日	第四節

9. Elly McBeal operates in a state where there is a 6% sales tax. If a customer pays cash for merchandise with a sales price of $500, what effect will this transaction have on McBeal's balance sheet? (Ignore the effect of cost of goods sold
A) Assets increase by $500, long-term liabilities increase by $30, and stockholders' equity increases by $500.
B) Assets increase by $530, long-term liabilities increase by $30, and stockholders' equity increases by $500.
C) Assets increase by $500, and stockholders' equity increases by $500.
D) Assets increase by $530, current liabilities increase by $30, and stockholders' equity increases by $500.
E) Assets increase by $500, current liabilities increase by $30, and stockholders' equity increases by $470.

10. Fox Enterprises has the following monthly payroll transactions:

A. The monthly gross salary for all its employees is $120,000. Fox withholds 21% of the employees' gross salary for federal taxes, 7% for state taxes, and 9% for Social Security (FICA) taxes.

B. Fox also incurs other employee-related costs. Specifically, the company must (1) match the Social Security taxes withheld from the employees, (2) contribute 3% of the employees' gross pay to the employees' pension fund, and (3) pay 4% of the employees' gross pay for health insurance premiums on behalf of the employees.

Referring to above statement, what is the appropriate journal entry to be made by Fox Enterprises for transaction B of their monthly payroll, which is associated with other employee-related costs?

A) Prepaid Employee Benefits	19,200	
Employer Social Security Payable		10,800
Pension Liability Payable		3,600
Health Insurance Payable		4,800
B) Unearned Employee Benefits	19,200	
Employer Social Security Payable		10,800
Pension Liability Payable		3,600
Health Insurance Payable		4,800
C) Compensation Expense	19,200	
Employer Social Security Payable		10,800
Pension Withholding Payable		3,600
Health Insurance Withholding Payable		4,800
D) Employee Benefit Expense	19,200	
Employer Social Security Payable		10,800
Pension Liability Payable		3,600
Health Insurance Payable		4,800
E) Compensation Expense	19,200	
Employer Social Security Payable		10,800
Pension Liability Payable		3,600
Health Insurance Payable		4,800

11. Which statement is false?
A) Typically the par value of common stock is adjusted for a stock split.
B) Stock splits are often used to keep a company's stock price low enough to maintain its price within a reasonable trading range.
C) Ignoring the effect of fractional shares, both stock splits and stock dividends issue shares of common stock without any additional cash payments.
D) There are no costs to the company when issuing stock splits or stock dividends.
E) In both a stock split and a stock dividend, the shareholders have the same ownership interest after the stock split or stock dividend as they had before the stock split or stock dividend.

備考	試題隨卷繳交
命題委員：	101 （簽章）

考試科目	會計學	所別	財政所 2431	考試時間	3月19日 星期日	第四節

12. Which of the following statements is false?
A) New corporations often start with a few investors and then seek additional funding as their original ideas are shown to be profitable.
B) Groups of investors called venture capitalists provide financial support for new corporations.
C) The IPO may be managed by an underwriting firm and shares will be sold to individual and institutional investors.
D) The accounting procedures used by a company will vary significantly based upon the stage of the company's growth cycle.
E) If the early life of the company is successful, the company may issue additional shares through an initial public offering (IPO).

13. The fair market value of identifiable assets, less the liabilities of GE Group are \$800,000. Over the past five years, GE Group has been able to generate net income of \$120,000 per year. What is the maximum price that a company would be willing to pay for GE Group, if the purchase price on normal annual earnings of 10% of net assets is a multiple of 9 times, and the purchase price on abnormal earnings in excess of 10% of net assets is a multiple of 6 times?
A) \$920,000
B) \$960,000
C) \$1,000,000
D) \$1,080,000

14.

Home Improve Company
Income Statement
(in thousands)
For the Years Ended December 31, 2004 and 2003

	2004	2003
Sales	\$999	\$800
Less Cost of Goods Sold	399	336
Gross Profit	\$600	\$464
Less Operating Expenses:		
Wage Expenses	\$214	\$150
Rent Expense	120	120
Miscellaneous Expense	100	50
Depreciation Expense	40	40
Total Operating Expenses	\$474	\$360
Operating Income	\$126	\$104
Less Other Expense:		
Interest Revenue	\$36	\$36
Interest Expense	(12)	(12)
Income before Tax	\$150	\$128
Less: Income Tax Expense	60	48
Net Income	\$90	\$80
Earnings Per Share	*\$.45*	*\$.40*
Annual Common Dividends Per Share	*\$.40*	*\$.20*
Closing Market Price Common Stock, 12/31	*\$9.00*	*\$6.00*

備	考試題隨卷繳交
命題委員：	：102 （簽章）

考試科目	會計學	所別	財政所 2431	考試時間	3月19日 星期日	第四節

	2004	2003
Current Assets:		
Cash	$150	$57
Accounts Receivable	95	70
Accrued Interest Receivable	15	15
Inventory	20	60
Prepaid Rent	10	--
Total Current Assets	$290	$202
Long-Term Assets:		
Long-Term Note Receivable	$288	$288
Equipment, less Accumulated Depreciation of $120 and $80	80	120
Total Long-Term Assets	$368	$408
Total Assets	$658	$610
Current Liabilities:		
Accounts Payable	$90	$65
Accrued Wages Payable	24	10
Accrued Income Taxes Payable	16	12
Accrued Interest Payable	9	9
Unearned Sales Revenue	--	5
Current Portion of Long-Term Notes Payable	80	--
Total Current Liabilities	$219	$101
Long-Term Liabilities:		
Notes Payable	40	120
Total Liabilities	$259	$221
Stockholders' Equity:		
Common Stock	$102	$102
Retained Earnings	297	287
Total Stockholders' Equity	$399	$389
Total Liabilities and Stockholders' Equity	$658	$610

Referring to above Table what is the dividend-yield for H.I. Company in 2004, and has the dividend-yield improved or not improved since 2003?
A) 3.3%, improved
B) 3.3%, not improved
C) 4.4%, not improved
D) 10.0%, not improved
E) 4.4%, improved

15. Interest expense on bonds exhibits the following attributes except:
A) interest expense is greater than the cash payment for interest when a bond is sold at a discount, regardless of whether straight-line or effective-interest amortization is used.
B) interest expense is greater than the cash payment for interest when a bond is sold at a premium and effective-interest amortization is used.
C) interest expense becomes a larger dollar amount over time when a bond is sold at a discount and effective-interest amortization is used.
D) interest expense is the same dollar amount for every interest payment period, if a bond was issued at a discount and straight-line amortization is used.
E) interest expense equals the cash payment for interest if a bond is sold at par.

備考	試題隨卷繳交
命題委員：	103 （簽章）

考試科目	會計學	所別	財政所 2431	考試時間	3 月 19 日 星期日	第 四 節

二、問答題及計算題(55%)

1. (9%) On January 1, 2004, IKEA Company acquired an $800,000 face value bond. The bond has a 10% coupon rate and pays interest semi-annually every June 30 and December 31. The bond matures in 10 years. IKEA Company acquired the bond at a price that would yield 8%. Using the present value tables, determine the balance sheet presentation of the bond on the December 31, 2004, balance sheet of IKEA Company.

2. (10%) J C Penny Corporation has net income of $400,000. The company's tax rate is 40%. The company had 100,000 shares of common stock outstanding throughout the year. The company also has two other securities:

a. Preferred stock, 6%, $100 par, 5,000 shares issued and outstanding. Each share of preferred stock is convertible into 4 shares of common stock.

b. 12% long-term bonds payable, $300,000 face value. Each $1,000 bond is convertible into 25 shares of common stock.

Prepare the basic and diluted earnings per share information for J C Penny Corporation.

3.(12%) YYY Company had net income of $5,000,000 for the year ended December 31, 2004. The stockholders' equity section of the YYY Company at December 31, 2004 and 2003, is as follows:

YYY Company
Stockholders' Equity Section of the Balance Sheet
December 31, 2004 and 2003

	12/31/04	12/31/03
11% Preferred stock, $100 par, noncumulative, 75,000 shares authorized; 20,000 shares issued and outstanding	$2,000,000	$2,000,000
Common stock, $1.25 par, 4,000,000 shares authorized; 1,100,000 and 1,050,000 shares issued	1,375,000	1,312,500
Additional paid-in capital-preferred	100,000	100,000
Additional paid-in capital-common	15,200,000	14,437,500
Total paid-in capital	$18,675,000	$17,850,000
Retained earnings	17,900,000	14,600,000
Total paid-in capital & retained earnings	$36,575,000	$32,450,000
Treasury stock, 12,000 and 10,000 shares of common stock	(180,000)	(150,000)
Total owners' equity	$36,395,000	$32,300,000

Determine:

A. the book value per share of common stock at the end of 2004

B. the rate of return on common equity for 2004

C. the amount of cash dividends on common Stock declared during 2004

備	考試題隨卷繳交
命題委員：	1-104 （簽章）

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考試科目	會計學	所別	財政所	考試時間	3月19日 星期日	第四節

4.(24%) During its first four years of operations a company elected to use different methods for determining the amount of particular expenses for tax purposes and for reporting purposes, with the following results:

	First Year	Second Year	Third Year	Fourth Year
Income before income tax	$20,000	$50,000	$62,100	$ 84,000
Taxable income	6,000	41,000	57,500	101,000

Assuming an income tax rate of 40%, determine (a) the amount of income tax reported on the income statement for each year, (b) the amount of income tax that would be paid each year, and (c) the deferred income tax payable that would be reported on the balance sheet at the end of each of the four years.
Please complete the following table:

	First Year	Second Year	Third Year	Fourth Year
Income tax on income statement				
Income tax paid				
Deferred income tax payable				

備考	試題隨卷繳交
命題委員：	105 （簽章）

考試科目	微積分	所別	財政學系	考試時間	3 月 19 日 星期日 第 4 節

1. Suppose that **(8 points)** (2% each)

$$f(x)=\begin{cases}\dfrac{1}{(x+1)^2} & \text{if } |x|>1\\ \dfrac{1}{4} & \text{if } |x|\le 1\end{cases}$$

(1). Is f continuous at $x=1$. (2). Is f differentiable at $x=1$.
(3). Is f continuous at $x=-1$. (4). Is f differentiable at $x=-1$.
Justify your answers.
[Note: Only "yes" or "no" as the answer will not be scored].

2. Let $f(x)=\sqrt{4-x^2}$ **(8 points)** (4% each)
(1). Find the point(s) on the graph of f at which the slope of the tangent line is equal to $-\dfrac{\sqrt{3}}{3}$.
(2). Find the equations(s) of the tangent line(s) of part (1).

3. The total monthly cost (in dollars) incurred by Cannon Precision Instruments Corporation for manufacturing q units of the model MP3 players is given by the function $C(q)=0.0025q^2+80q+10{,}000$ **(10 points)**
Show that the marginal cost curve will pass through the minimum point of the average cost curve.

4. Use the definition of the Euler number $e=\lim\limits_{n\to\infty}(1+\dfrac{1}{n})^n$ to show that **(10 points)**
$\dfrac{d\ln x}{dx}=\dfrac{1}{x}, x>0.$

5. In a study, two countries' Lorentz curves was estimated as follows. **(10 points)**
Country A: $f(x)=\dfrac{11}{12}x^2+\dfrac{1}{12}x$
Country B: $g(x)=\dfrac{5}{6}x^2+\dfrac{1}{6}x$
(1).Compute the coefficient of inequality (Gini index) for each country's Lorentz curve. (7%)
(2). Which country has a more equitable income distribution? (3%)

備考	試題隨卷繳交
命題委員：	106 （簽章）

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考試科目	微積分	所別	財政學系 2431	考試時間	3月19日 星期日 第2節

6. Suppose that $f(x)$ is continuous and nonnegative on an interval $[a, b]$. **(14 points)**

(1). Use the Riemann Sum to approximate the area of the region under the graph of f and bounded vertical lines $x = a$, $x = b$ and the x-axis (4%)

Now, let $f(x) = x^3$.

(2). Compute the Riemann Sum of f over the interval [0, 1], using four subintervals of equal length ($n = 4$) and choosing the representative points to be the midpoint of the subinterval. Then find the error of this approximation. (4%)

(3). Use the Trapezoidal Rule to approximate the area of the region, using $n = 4$. Then find the error of this approximation. (3%)

(4). Use the Simpson's Rule to approximate the area of the region, using $n = 4$. Then find the error of this approximation. (3%)

7. Evaluate the following integrals. **(10 points)** (5% each)

(1). $\int_1^e \frac{\ln x}{x^3}dx$. (2). $\int_{-\infty}^{\infty} xe^{-x^2}dx$.

8. Evaluate $\iint_R xe^{y^2}\,dA$ **(10 points)**

where R is the plane region bounded by the y-axis, the horizontal line $y = 4$, and the graph of $y = x^2$.

9. Suppose that we are given a data set containing n observations about the relation between x and y, $(x_1, y_1), (x_2, y_2), \ldots, (x_n, y_n)$. **(10 points)**

The regression line by the Method of Least Squares is given by $y = f(x) = a + bx$. Show that the minimization of the sum of squared errors can give the ordinary least square estimators

$$\hat{b} = \frac{\sum_{i=1}^{n} x_i y_i - n\bar{x}\,\bar{y}}{\sum_{i=1}^{n} x_i^2 - n\bar{x}^2},\ \hat{a} = \bar{y} - \hat{b}\bar{x},\ \text{where } \bar{x} = \frac{\sum_{i=1}^{n} x_i}{n} \text{ and } \bar{y} = \frac{\sum_{i=1}^{n} y_i}{n}.$$

10. Let $f(x) = \sqrt{1 + x^3} - x$, $x \geq -1$. **(10 points)**

Sketch the graph of the antiderivative F that satisfies the initial condition $F(-1) = 0$. Then estimate the value of $F(3)$ according to your sketch. (7%) (3%)

[Hint: In this case, the formula of F may not be derived by techniques of integration. Instead, you may draw the graph of f first (i.e., the direction field), and then use it to graph F proximately.]

備考	試題隨卷繳交
命題委員：	：107 （簽章）

國立政治大學九十五學年度研究所博碩士班入學考試

考試科目	統計學	所別	財政 2451	考試時間	3月19日 星期日 第4節

1 (10 points) The probability density of the random variable Z is given by

$$f(z)=\begin{cases} kze^{-z^2} & \text{for } z>0 \\ 0 & \text{for } z\le 0 \end{cases}$$

Find k and draw both of the graph of this probability density and distribution functions.

2 (10 points) Show that if X is a random variable with the mean μ for which $f(x)=0$ for $x<0$, then for any positive constant a,

$$P(X\ge a)\le \frac{\mu}{a}.$$

3 (10 points) Show that if $\hat{\theta}$ is an unbiased estimator of θ and $\operatorname{var}(\hat{\theta})\ne 0$, then $\hat{\theta}^2$ is not an unbiased estimator of θ^2.

4 (15 points) The following are the average monthly losses of the excise tax due to tax exemptions in 10 items before and after a certain tax reform was put into operation:

45 and 36, 73 and 60, 46 and 44, 124 and 119, 33 and 35,
57 and 51, 83 and 77, 34 and 29, 26 and 24, and 17 and 11.

Test whether the tax reform is effective with the 0.05 level of significance.

5 (15 points) The following sample data pertain to the shipments received by a large firm from three different vendors:

	Number rejected	Number imperfect but acceptable	Number perfect
Vendor A	12	23	89
Vendor B	8	12	62
Vendor C	21	30	119

Use Chi-square to test whether the three vendors ship products of equal quantities at the 0.05 level of significance.

備考	試題隨卷繳交

命題委員： ： 108 （簽章）

考試科目	統計學	所別	財政 2431	考試時間	3月19日 星期日 第4節

6 (20 points) The following are the cholesterol contents, in milligrams per package, which four laboratories obtained for 6-ounce packages of three very similar diet foods:

	Diet food A	Diet food B	Diet food C
Laboratory 1	3.4	2.6	2.8
Laboratory 2	3.0	2.7	3.1
Laboratory 3	3.3	3.0	3.4
Laboratory 4	3.5	3.1	3.7

Perform a two-way analysis of variance and test the null hypotheses concerning the differences in the diet foods and in the laboratories at the 0.05 level of significance.

7 (20 points) The following are sample data provided by a moving company on the weights of six shipments, the distances they were moved, and the damage that was incurred:

Weight (1,000 lb) x_1	Distance (1,000 miles) x_2	Damage (1,000 dollars) y
4.0	1.5	160
3.0	2.2	112
1.6	1.0	69
1.2	2.0	90
3.4	0.8	123
4.8	1.6	186

(a) Assuming that the regression is the linear equation of the form

$\mu_{Y|x_1,x_2} = \beta_0 + \beta_1 x_1 + \beta_2 x_2$, estimate β_0, β_1 and β_2.

(b) Use the results of part (a) to estimate the damage when a shipment weighing 2,400 pounds is moved 1,200 miles.

Appendix:

$t_{0.025,18} = 2.10; t_{0.05,18} = 1.73; t_{0.025,9} = 2.26; t_{0.05,9} = 1.83;$

$\chi^2_{0.05,4} = 9.49; \chi^2_{0.05,8} = 15.51; \chi^2_{0.025,4} = 11.14; \chi^2_{0.025,8} = 17.54;$

$F_{0.025,3,6} = 6.60; F_{0.025,2,6} = 7.26; F_{0.05,3,6} = 4.76; F_{0.05,2,6} = 5.14.$

備考	試題隨卷繳交

命題委員： 109 （簽章）