※ 注意：全部題目均請作答於試卷內之「非選擇題作答區」，請標明題號依序作答。

I. 填空題；請將填空題答案依題號回答於答案卷上，題號務必標示清楚。每題4分，答錯及未答得零分共28分。

1. If a firm borrows $50 million for one year at an interest rate of 10%, the present value of the interest tax shield is __________? Assume a 35% tax rate. (Approximately.)

2. Bombay Company's balance sheet is as follows:
(NWC = net working capital; LTA = long term assets; D = debt; E= equity; V = firm value):

Book Values				Market Values			
NWC	200	500	D	NWC	200	500	D
LTA	2300	2000	E	LTA	2800	2500	E
	2500	2500	V		3000	3000	V

According to MM's Proposition I corrected for taxes, what will be the change in company value if Bombay issues $200 of equity and uses it to make a permanent reduction in the company's debt?________ (Assume a 35% tax rate).

3. If the expected return on a risk-free, zero-NPV, no debt-financed project is 8%. What, according to MM's theory, is the interest rate on risk-free debt? ________ (Assume a 25% corporate tax rate.)

4. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?____________
Corporate tax rate: 34%
Personal tax rate on income from bonds: 30%
Personal tax rate on income from stocks: 30%

5. The X Co. has an equity cost of capital of 17%. The debt to equity ratio is 1.5 and a cost of debt is 11%. What is the cost of equity if the firm was unlevered?_________ (Assume a tax rate of 33%)

6. The asset beta of a levered firm is 1.05. The beta of debt is 0.35. If the debt equity ratio is 0.5, what is the equity beta? ___________ (Assume zero taxes.)

7. You have been asked to evaluate a project with infinite life. Sales and costs are projected to be $1000 and $500 respectively. There is no depreciation and the tax rate is 30%. The real required rate of return is 10%. The inflation rate is 4% and is expected to be 4% forever. Sales and costs will increase at the rate of inflation. If the project costs $3000, what is the NPV? _________

II. 是非題；對者打○，錯者打x, 「如果打x，請簡要說明原因，不要超過20字」。每題答對得2分，答錯及未答得零分, 22%。

1. Miller and Modigliani's argument for dividend irrelevance assumes an efficient market.
2. The constant growth formula for stock valuation does not work for firms with negative growth (declining) rates in dividends.
3. A portfolio with a beta of zero offers an expected return of zero.
4. According to the CAPM, market portfolio is a risky portfolio.
5. Both the CAPM and the APT stress that expected return is also not affected by unique risk.
6. Financial leverage affects the risk of the firm's assets.
7. Dividend payments are used to change the capital structure by replacing equity with debt.
8. According to Modigliani and Miller Proposition II, the rate of return required by the debt holders increases as the firm's debt-equity ratio increases.
9. According to the trade-off theory, more profitable firms should have more debt and thus the highest debt ratios.
10. Discounting at the WACC assumes that debt is rebalanced every period to maintain a constant ratio of debt to market value of the firm.
11. In real options, required investment is considered the exercise price.

III. 問答與計算題 50%：

1. Nevada Nuggets Inc. is considering two mutually exclusive projects. Suppose the project that Nevada chooses will be the only business it does next year. Therefore, the payoff of the project will determine the value of the firm. Nevada is obligated to make a $700 payment to bondholders next year. The projects will determine the value of the firm as follows:

Project	Probability	Value of firm	Value of stock	Value of bonds
A	0.5	$3,000	$2,300	$700
	0.5	$4,500	$3,800	$700
B	0.5	$100	$0	$100
	0.5	$6,900	$6,200	$700

Which project will Nevada Nuggets Inc. accept? Why? If Nevada Nuggets Inc. were an all-equity firm, which project would be accepted? Why? (15 分)

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2.

(a) The stocks of Spume Company and Froth Company are equally risky. Spume has an expected before-tax dividend yield over the next year of 10%, while Froth pays no dividends. The total expected after-tax return on Froth stock is 20%. Capital gains are not taxed, but dividends are taxed at 40%. What is the total expected pre-tax return on Spume stock? (5分)

(b) Now suppose that Spume's dividend per share next year will be $10, and after paying the dividend the stock will sell for $100 per share. Froth's current stock price is $50 per share, and shareholders expect that next year's stock price per share will be $60. Froth pays no dividends. Assume that dividends are taxed at 40%, and capital gains are taxed at 20%. What is Spume's current stock price per share? (10分)

3. Arcadia Enterprises would like to grow 10% per year for the foreseeable future. The firm's financial statements are provided below ($ in thousands).

Income Statement

Sales	$1,400
Cost of sales	900
Interest	150
Tax (34%)	119
Net income	$231
Dividends	169

Balance Sheet

Current assets	$1,891	Current liabilities	$1,173
Net fixed assets	1,689	Long-term debt	945
		Common stock	959
		Retained earnings	503
Total	$3,580		$3,580

Arcadia believes that its assets and current liabilities vary directly with its level of sales, its net income is a constant proportion of its sales, and its dividend-payout ratio remains constant. If the firm grows 10% next year, how much external fund does Arcadia need? To raise the external fund needed, what are the dollar amount of new long-term debt and the dollar amount of new common stock that Arcadia must issue if its debt-equity ratio remains constant? In answering, assume that the debt/equity ratio is based on total debt. (20分)