

淡江大學 103 學年度碩士班招生考試試題

47-1
48-1

系別：財務金融學系

科目：財務管理

考試日期：3月2日(星期日) 第2節

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※下列題目只寫答案，沒有寫出運算證明過程不予計分。

- 1.(10%) A 2-year maturity bond has 5% coupon rate and face value of \$1000. If the yield to maturity on the bond is 2%, calculate the price of the bond assuming that the bond makes semi-annual coupon interest payments.
- 2.(10%) Large Industries bonds sell for \$1,065.15. The bond life is 9 years, and the yield to maturity is 7%. What must be the coupon rate on the bonds? (Assume annual interest payments.)
3. A company will pay a \$1 per share dividend in 1 year. The dividend in 2 years will be \$2 per share, and it is expected that dividends will grow at 10% per year thereafter. The expected rate of return on stock is 20%.
 - (A)(5%) What is the current price of the stock?
 - (B)(5%) What is the expected price of the stock in a year?
 - (C)(5%) Show that the expected rate of return equals dividend yield plus capital gains yield.
- 4.(10%) Because of its age, your car costs \$5,000 annually in maintenance expense. You could replace it with a newer vehicle costing \$8,000. Both vehicles would be expected to last 5 more years. If your opportunity cost is 10%, by how much must maintenance expense decrease on the newer vehicle to justify its purchase?
- 5.(10%) What is the minimum cash flow that could be received at the end of year 3 to make the following project "acceptable"? Initial cost = \$100,000; cash flows at end of years 1 and 2 = \$35,000; opportunity cost of capital = 10%.
- 6.(10%) Financial Calculator Company proposes to invest \$10 million in a new calculator making plant. Fixed costs are \$3 million a year. A financial calculator costs \$10 per unit to manufacture and can be sold for \$30 per unit. If the plant lasts for 5 years and the cost of capital is 10%, what is the NPV break-even level (i.e. NPV = 0) of annual rates? The plant will be depreciated straight-line over 5 years to a salvage value of zero. The tax rate is 20%.
- 7.(5%) TKU Inc. is financed 60% with equity and 40% with debt. Currently, its debt has a before-tax interest rate of 10%. TKU's common stock trades at \$10 per share and its most recent dividend was \$1. Future dividends are expected to grow by 5%. If the tax rate is 20%, what is TKU's WACC?

本試題雙面印

淡江大學 103 學年度碩士班招生考試試題

48-2

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- 8.(5%) What is the WACC for a firm with equal amounts of debt and equity financing, a 16% before-tax company cost of capital, a 20% tax rate, and a 10% coupon rate on its debt that is selling at par value?
- 9.(5%) How much should an investor pay now for a stock expected to sell for \$30 one year from now if the stock offers a \$2 dividend, dividends are taxed at 40%, capital gains are taxed at 20%, and a 10% after-tax return is expected on the investment?
- 10.(5%) As an investor, you saw an opportunity to invest in a new stock with excellent growth potential. Wanting to invest more than you had, which was only \$1,000, you sold another stock short with an expected rate of return of 5%. The total amount you sold short was \$4,000, and your total amount invested in the growth stock, which had an expected rate of return of 24%, was thus \$5,000. Assuming no margin requirements, what is your expected rate of return on this portfolio?

11. Consider the following information.

Risk-free rate = 0.05

Expected return of the market portfolio (M) = 0.1

Standard deviation of the market portfolio (M) = 0.5

Correlation coefficient between stocks A and B = 0.3

	Correlation of Stock with M	Standard Deviation
Stock A	0.5	0.8
Stock B	0.9	0.5

Consider a portfolio consisting of 20% invested in A and 80% invested in B .

- (A)(5%) Compute the variance of this portfolio.
- (B)(5%) What is the beta of this portfolio?
- (C)(5%) According to the CAPM, what should the portfolio's equilibrium return be?