國立高雄應用科技大學
九十七學年度碩士班招生考試
金融資訊研究所（甲組）

准考證號碼□□□□□□□□□ （考生必須填寫）

財務管理

注意：a. 本試題共 7 題，每題 分，共 100 分。
b. 作答時不必抄題。
c. 考生作答前請詳閱答案卷之考生注意事項。

1. You expect interest rates to increase in the near future. To minimize your loss, all else constant, you should avoid purchase short-term and high coupon bonds. Is this statement true or false? Please explain. (10 points)

2. When you retire five years from now, you want to have $1 million. You think you can earn 8 percent annually on your money. To meet this goal, you are trying to deposit the same amount of money each year until the year you retire. How much will you have to deposit each year if you deposit immediately? (10 points)

3. The common stock of Wang's Inc. sells for $25 a share. The stock is currently paying a dividend of $1.80 per share. Wang's has established a pattern of increasing dividends by 3 percent annually and expects to continue doing so. What is the market rate of return on this stock? (8 points)

4. Kuo's Inc. has a debt-asset ratio of 30 percent, sales of $12,000, net income of $1,000, and total debt of $3,300. What are the asset turnover ratio and the return on equity? (8 points)

5. The current spot rate is NT 30.4/$ and the one-year forward rate is NT 30.8/$. The nominal risk-free rate in Taiwan is 3 percent while it is 2 percent in the U.S. Using covered interest arbitrage show that you can earn extra profit if you invest in the U.S. (8 points)

6. Consider a 6-month European put stock option with N(d1) = 0.8236 (Black-Scholes Model). The stock pays no dividend and is currently priced at $40 per share. What is the delta of this 6-month put option? (8 points)

7. Happy Corporation (HC) is an all-equity firm with a market value of $10 million. This company is considering a purchase of new equipment. This new project has the same risk as the overall firm. Suppose the firm has narrowed its choices to the following two types of machines: (48 points)

	Model 1	Model 2
Expected revenues (per year)	$0.9 million	$0.7 million
Expected operating costs (per year) (Excluding depreciation expenses)	$0.1 million	$ 0.15 million
Economic life	4 years	4 years
Price of the equipment	$ 2 million	$ 1.2 million

The machines will be depreciated to zero by a straight-line method. In addition, the risk-free rate is 2 %, the expected return of market portfolio is 8% and its variance is 4%. HC's covariance with market return is 6%. The firm's corporate tax rate is 30%.

(1) What is HC's cost of capital? (8 points)

(2) Which of the two machines should HC purchase? (10 points)

(3) Suppose HC decides to issue new equity in order to finance the purchase. What will the market value of HC be after the purchase is made? (10 points)

(4) Suppose HC decides to issue debt in order to finance the purchase. According to Modigliani-Miller proposition, what will the market value of HC be after the purchase is made? (10 points)

(5) According to Modigliani-Miller proposition, what is HC's cost of equity capital if HC issues debt to finance the purchase (assume the interest rate is 5%)?(10 points)