國立臺灣科技大學
九十二學年度碩士班招生考試試題
系所組別：財務金融研究所碩士班
科　目： 財務管理

總分 100 分

1. **(35 points)** Let us assume that you are hired as a financial consultant to NTUST-MBA, Inc., which is the market share leader of genetic drugs in Taiwan. The company is looking at a site to build a plant to produce SARS-KILLERs, a new drug for an epidemic disease, called SARS. This project will last 5 years due to the lack of financial resources and the insufficiency of medical cooperation among pharmaceutical manufacturers. Actually, the company bought a piece of land in Taipei County seven years ago for $5 million in expecting to use it for its headquarters, but the urgency of moving its main office to the planned headquarters was halted by the slowdown of Taiwan's economy. The land was appraised last month for $200,000. The company now wants to build its new plant on this land. The plant will cost $8 million to build.

NTUST-MBA Inc. hires NTUST-EMBA Investment Bank as its lead underwriter. The investment bank charges NTUST-MBA commission fees of 12 percent on new common stock issues, 7 percent on new preferred stock issues, and 4 percent on new debt issues.

TABLE-1　Data on current NTUST-MBA, Inc.

Common Stock	400,000 shares outstanding and selling for $30 per share, its $\beta = 1.2$
Preferred Stock	20,000 shares of 6 percent preferred stock outstanding and selling for $90 per share
Debt	10,000 bonds with 9 percent coupon rate and 10 years to maturity, selling for 88 percent of par. The par value of the bonds is $1,000 each and the bonds make semiannual payments
Market Risk	The expected market risk premium is 6 percent
Risk-Free Rate	Risk-free rate is 4 percent
Tax Rate	34 percent

(a) Please calculate the project's Time 0 cash flow.

(b) The new SARS-KILLER project is assumed riskier than a typical project for NTUST-MBA because the manufacturing process is still out of the question. You are told to include an adjustment of 2 percent to reflect the increased uncertainty. Please calculate the appropriate discount rate to evaluate the feasibility of the SARS-KILLER project.

(c) The SARS-KILLER project requires $600,000 in initial net working capital to start with. The company will spend $1 million in maintaining the manufacturing lines as annual fixed costs. The project is planned to produce 40,000 SARS-KILLERs per year and sell them at $250 each. The variable cost of producing each SARS-KILLER is $150. The project is assumed to have an eight

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years tax life and uses straight-line depreciation. Please calculate the annual operating cash flow (OCF) from this project.

(d) The CEO of NTUST-MBA is mainly concerned about the reported accounting statements that will be released to the public soon. Please help your CEO calculate the accounting break-even quantity of SARS-KILLERs for the project. In addition, the board of directors are primarily interested in the project's internal rate of return and net present value. Please provide them with IRR and NPV.

2. **(15 points)** Let us assume NTUST-MBA, Inc. has taken a $150,000 mortgage on the purchase of its needed land at an interest rate of 7% per year and the time to maturity is 20 years.

(a) If the mortgage calls for twenty equal annual payments, what is the amount of each payment?

(b) If the mortgage calls for twenty equal annual payments, what is the value of the mortgage after the payment of the second annual installment?

(c) If the mortgage calls for twenty equal annual payments, what is the value of the mortgage after the payment of the fifth annual installment?

3. 企業在其發展的不同階段(初創、成長、成熟、衰退)，融資政策與股利政策應如何擬定？ (25 分)

4. 企業從事併購時所面臨的重要問題(困難)為何？ (10 分)
在併購分析時，評價模式有哪些？如何運用？ (15 分)