PCs Forever is a company that produces personal computers. It has been in operation for two years and is at capacity. It is considering an investment project to expand its production capacity. The project requires an initial outlay of $1,000,000: $800,000 for new equipment with an expected life of four years and $200,000 for additional working capital. The selling price of its PCs is $1,800 per unit, and annual sales are expected to increase by 1,000 units as a result of the proposed expansion. Annual fixed costs (excluding depreciation of the new equipment) will increase by $100,000, and variable costs are $1,400 per unit. The new equipment will be depreciated over four years using the straight line method with a zero salvage value. The hurdle rate for the project is 12% per year, and the company pays income tax at the rate of 40%.

a. What is the accounting break-even point for this project?
b. What is the project’s NPV?
c. At what volume of sales would the NPV be zero?
四、(20 分)

(1) 依據相關資本結構理論 (Capital Structure Theory)，考量公司稅及個人所得稅，試說明公司價值與資本結構的關係。
(2) 當台灣採行兩稅合一時，對公司資本結構的可能影響為何？應如何思考？
(3) 說明 financial distress costs 與 agency costs，並討論其對資本結構的影響。

五、(30 分)

Answer the following questions:

(1) It is said that the equity in a levered firm is like a call option on the underlying assets. Explain what is meant by this statement.
(2) Does market efficiency mean you can throw darts at The Wall Street Journal listing of New York Stock Exchange stocks to pick a portfolio?
(3) What is the difference between an asset beta and an equity beta?
(4) What are problems with the IRR approach applying to mutually exclusive projects?
(5) In the May 4, 1981, issue of Fortune, an article entitled “Fresh Evidence That Dividends Don’t Matter” stated, “All told, 115 companies of the 500 [largest industrial corporations] raised their payout every year during the period [1970-1989]. Investors in this group would have fared somewhat better than investors in the 500 as a whole: the median total [annual compound] return of the 115 was 10.7% during the decade versus 9.4% for the 500.” Is this evidence that investors prefer dividends over capital gains? Why or why not?