Instructions. This exam is closed book and closed note. Scratch pages are not allowed. Write your answer in the space provided or in an equal space elsewhere. Spill-overs, illegibility, and unreasonably tiny writing are penalized.

1. An investment project has a cost of 700 at the beginning and produces before-tax, before-depreciation net revenues of 250 per year for each of four (4) years and zero thereafter. Of the total cost of the project, 600 is the cost of plant and equipment, which are depreciated in a straight line over the four years. After the four years, plant and equipment have a salvage value of 100. The corporate tax rate is thirty-four percent (34%).
   a. In a well-organized table, show the after-tax incremental cash flows?
   b. Given a discount rate of nine percent (9%), what is the net present value of the project?

2. Define $\beta$, explain its meaning, and explain why the security market line is, in fact, a straight line.
3. Answer the following:

(a) In the context of capital budgeting, explain the ideas of opportunity cost and sunk cost. Describe briefly the treatment of net working capital.

(b) Consider a stock. Further consider a put option on the stock with strike price of 50 that expires in 6 weeks and a call option on the stock with strike price of 50 that also expires in 6 weeks. The safe rate of interest is zero. Ignore bid-ask spreads. Suppose that today the stock sells for 51, the put sells for 1, and the call sells for 3. At these prices, an arbitrage opportunity exists. Describe it in detail. (The relevant formula here is the one for put-call parity, that is \( S + P = X e^{-r(T-t)} + C \).)