Corporate Finance: Final Exam

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam. For partial credit, when discounting, please show the discount rate that you are using (not just the PV).

1. Clarus Corp is a company that operates in two businesses, steel and technology, and in two countries, the US and Brazil. The table below summarizes the revenues by business and by country (in millions):

	US	Brazil	Total
Steel	$800.00	$400.00	$1,200.00
Technology	$600.00	$300.00	$900.00
Total	$1,400.00	$700.00	

You have estimated unlevered betas of 0.90 for steel and 1.20 for technology and equity risk premiums of 6% for the US and 9% for Brazil. The US Treasury bond rate is 3% and the Brazilian $ denominated bond rate is 5%. Clarus Corp has 315 million shares, trading at $10/share, no debt outstanding and no cash balance. The corporate marginal tax rate is 40%.

a. If you assume that market value is 1.5 times revenues in both businesses, estimate the US$ cost of capital for Clarus. (2 points)

b. Now assume that Clarus plans to borrow $1.2 billion at 5% (pre-tax) to pay a special dividend of $450 million and to reinvest the rest ($750 million) in its technology business in Brazil. Estimate the cost of capital for the company in US$ after the debt issue and expansion. (4 points)

2. Google is considering entering the retail business. The initial investment to get the retail stores launched is expected to be $5 billion, depreciable straight line over a lifetime of 10 years to a salvage value of zero. The tax rate for Google is 40% and the company faces a cost of capital of 11%; the cost of capital for specialty retailers is 9%. (Please be explicit about the discount rate that you are using to compute your answers in each part)
   a. Assume that Google expects to stay in the retail business only ten years and that the expected EBITDA margin (EBITDA as a percent of sales) at the stores will be 20%. If revenues are expected to be $4 billion each year for the next ten years, what is the NPV of this investment? (2 points)

b. Assume that Google expects to see its advertising revenues change for the next 10 years, as a result of opening the stores. Assuming that the after-tax operating margin in the advertising business is 20%, how much would annual advertising revenues have to change for this project to have a zero net present value? (After-tax operating margin = After tax operating income as % of sales) (2 points)

c. Finally, assume that Google has been given the option of expensing $ 2 billion of the $5 billion initial investment immediately and depreciating the balance of $3 billion over a 5-year period to a salvage value of zero, instead of ten years. Assuming that the project life stays at 10 years and all of the other inputs are unchanged, how much will the NPV change if Google switches depreciation methods? (2 points)

3. Pelitto Inc. has 100 million shares outstanding, trading at $50/share. The company has no debt outstanding and no cash balance. Its stock has a beta of 0.90, the risk free rate is 3% and the equity risk premium is 6%.
    a. The company is in stable growth and is expected to generate free cash flows, prior to debt payments but after taxes and reinvestment needs, of $ 250 million next year. Given the market value of the company, what is the implied growth rate? (1 point)

    b. Now assume that Pelitto plans to borrow $2 billion at a pre-tax cost of debt of 7% and return the cash to equity investors. If the marginal tax rate is 40%, what effect will the borrowing have on firm value, assuming that your savings grow at the implied growth rate from part a? (2 points)

c. Assume that cash return (in part b) took the form of a special dividend (the $2 billion is borrowed and paid out as a dividend). What will the stock price be after the special dividend? (1 point)

d. Assume that Pelitto uses the $2 billion to buy back shares (instead of paying a special dividend). What would the buyback price have to be for the remaining shares to see trade at $51/share after the buyback? (2 points)

4. Nano Media is a young, growing social media company that has just reported net income of $10 million for the most recent year, on revenues of $100 million. The company reported capital expenditures (including acquisitions) of $40 million for the most recent year, significantly higher than the depreciation of $12 million for the year. Finally, non-cash working capital was $36 million at the end of the most recent year. Looking forward, the company expects the following for each of these items for the next 3 years:
   - Revenues will grow 40% a year, capital expenditures at 15% a year and depreciation at 25% a year, each year for the next 3 years.
   - The table below lists the expectations that the company has for net profit margins (net income as a percent of sales) and non-cash working capital as a percent of sales for the next 3 years:

	1	2	3
Net Margin	12%	14%	16%
Total non-cash WC as % of revenues	30%	25%	15%

   a. The company currently has a cash balance of $45 million. How much cash will be left after year 3, if it pays no dividends and does not borrow money?
   (3 points)

b. Assume that the company decides to institute a dividend payout ratio of 20% and also to borrow $4 million every year for the next three years. How much stock can the company buy back over the three years, if it wants to have a cash balance of $10 million at the end of year 3? (3 points)

5. Loma Vista Inc. is a small, publicly traded company that manufactures beachwear and casual apparel. The company generated $ 10 million in after-tax operating income on revenues of $100 million in the most recent year. It reported book value (and market value) of debt of $15 million, book value of equity of $45 million and a cash balance of $10 million; the company's return on capital is expected to remain stable in perpetuity. The company has a cost of equity of 15% and a cost of capital of 12% today.
    a. Loma Vista had capital expenditures of $7 million and depreciation of $ 5 million in the most recent year. Its working capital increased from $9 million to $10 million during the year. Finally, while the company did not do an acquisition last year, <u>it does one acquisition every 5 years at a cost of approximately $15 million</u>. Assuming that it continues its existing reinvestment policy, estimate the expected free cash flow to the firm each year for the next 3 years. (3 points)

b. At the end of year 3, the company expects growth to drop to 3% a year in perpetuity and its cost of equity will drop to 12% and its cost of capital to 10% after year 3. Estimate the terminal value (end of year 3). (1.5 points)

c. Estimate the value of equity per share today, if there are 5 million shares outstanding. (Please be explicit about the discount rate that you are using to compute your value today.) (1.5 points)