Final Exam: Corporate Finance

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. GRL Inc. is a publicly traded company that operates in the software and entertainment business, deriving 60% of its value from software and 40% from entertainment. You have collected the following information on comparable firms:

	Comparable Companies	
	Levered Beta	D/E ratio
Software	1.38	25%
Entertainment	1.17	50%

GRL has 80 million shares trading at $10/share and $200 million in 10-year corporate bonds (with a coupon rate of 4%) outstanding, trading at par. The company also has lease commitments of $50 million a year for the next 5 years and a marginal tax rate of 40%.

a. Estimate the current debt to equity ratio (in market value terms) for GRL. (1 point)

b. Estimate the levered beta for GRL Inc. (2 points)

c. Now assume that GRL plans to sell a portion of its software business and expects to receive $400 million (it's fair value) from the divestiture. It plans to borrow an additional $100 million, invest $300 million of the total proceeds (from the divestiture and the new debt issue) to invest in a social media (online advertising) business and use the rest to buy back stock. If the unlevered beta of social media (online advertising) is 1.50, estimate the levered beta after this transaction. (3 points)

2. ESPN is planning a major expansion into Latin America and has enlisted you in assessing whether it makes sense. You have been given the following information:
    - The expansion will require investment in a new studio and broadcasting facilities in Sao Paulo, which will cost $2 billion (to be spent immediately), depreciable over 10 years to a salvage value of $500 million.
    - Without the expansion, ESPN expects to generate $500 million in annual revenues from Latin America each year for the next 10 years, and the expansion will triple those annual revenues. ESPN expects to continue to generate an EBITDA margin of 40% on the incremental revenues.
    - ESPN will allocate $100 million in G&A costs to the Latin American operations, but 75% of these costs are fixed.
    - The project is expected to last ten years, but to keep the studio technologically updated, ESPN will have to reinvest 20% of its depreciation back into the project every year as maintenance capital expenditures.
    - You can assume that ESPN is all-equity funded and that it faces an effective tax rate of 40% no matter where it operates.

    a. Estimate the expected incremental cash flows for the investment over its 10-year life. (2 points)

b. The cost of equity that ESPN (correctly) used for its most recent investment (which was entirely in the US) was 7.7%. (The US Treasury bond rate is 2%, the US equity risk premium is 6% and the additional country risk premium for Latin America is 3%). Estimate the NPV of the Latin American expansion. (2 points)

c. Now assume that the Latin American expansion will increase TV viewership in the United States. Assuming that the EBITDA margin for US TV revenues is also 40%, estimate how much annual revenues would have to increase in the United States for the Latin American expansion to be a viable investment. (If you got a positive NPV in part b, solve for how much annual revenues would have to decrease.) (2 points)

3. Madeira Inc. is a publicly traded company that is considering a restructuring plan. The company currently has 150 million shares trading at $12/share and total debt outstanding of $200 million. The firm currently has a (levered) beta of 1.20, the risk free rate is 2%, the equity risk premium is 6% and the marginal tax rate is 40%.

a. The firm is planning **to double its dollar debt** and use the proceeds from the new debt to pay dividends & buy back stock. If it's bond rating will drop to BBB with a default spread of 2.5% over the risk free rate, estimate the cost of capital after the recapitalization. (2 points)

b. You estimate that if the firm doubles its debt, its value as a business will increase by 2%. Estimate the pre-tax cost of debt that currently faces (before recapitalization), if the firm is mature with no growth expected in perpetuity. (2 points)

c. Now assume that the firm plans to use half of the proceeds to buy back stock at \$12.50/share and the other half to pay a special dividend to the remaining shareholders. Estimate the value per share of the remaining shares after the recapitalization. (2 points)

4. You have been asked to assess the dividend policy of Spring Tide Inc., a consumer product company and have been given the last two years of data on the company.

	2013	*2014*
Revenues	$1,000	$1,100
EBITDA	$500	$560
EBIT	$400	$440
Net Income	$150	$180
Total Working Capital (including cash)	$100	$120
Cash (invested in T.Bills)	$40	$80
Total Debt	$90	$120

The company also had capital expenditures of $150 million in 2014 and made a cash acquisition of $50 million in 2014.

a. If Spring Tide bought back $50 million of its own stock in 2014, estimate the dividend payout ratio for Spring Tide in 2014. (Dividend payout = Dividends as a percent of net income). (2 points)

b. Now assume that you are told that net income and revenues are expected to grow 20% in 2015, while capital expenditures and depreciation will grow 10%. In addition, the company plans to make no cash acquisitions in 2015, to maintain non-cash working capital at the same percent of revenues as it did in 2014 and to pay out 25% of its net income as dividends. Estimate how much the company can spend on stock buybacks in 2015, if it also wants to increase its cash balance by $20 million during the year and retire half of its total debt. (3 points)

c. Assuming that you operate in a market where capital gains are taxed at 20%, and dividends are taxed at 40% for all investors. However, investors are allowed to claim a tax credit for taxes paid by company on the income used to pay dividends. If the average effective corporate tax rate is 30%, which of the following would you expect to observe, on average, happening to stock prices on the ex-dividend day?

i. Stock price will decrease by more than the dividend paid
ii. Stock price will decrease by less than the dividend paid
iii. Stock price will increase by more than the dividend paid
iv. Stock price will increase by less than the dividend paid
v. Stock price will not change

5. Carbon Springs is a beverage company that reported the following numbers for the most recent fiscal year:

	Most recent year
Revenues	$2,000.00
EBITDA	$500.00
DA	$100.00
EBIT	$400.00
- Interest expenses	$50.00
Taxable Income	$350.00
Taxes	$105.00
Net Income	$245.00

During the year, the company reported capital expenditures (including acquisitions) of $200 million and an increase in non-cash working capital of $40 million. You can assume that the company will continue to generate its current return on invested capital in perpetuity and that its effective tax rate is the marginal tax rate.

a. Assuming that operating income will grow at 8% a year for the next five years, estimate the free cash flows to the firm for the next five years. (2 points)

b. At the end of year 5, the company is expected to become a mature business, growing at 2% a year in perpetuity with a cost of capital of 8% (mature company levels). Estimate the value of the business at the end of year 5. (2 points)

c. Assume that the company's current cost of capital is 12% and is expected to stay at that level for the next 5 years, estimate the value of equity per share today. (The total debt outstanding is $1 billion, the company's cash balance is $600 million and there are 150 million shares outstanding.)