Spring 2016 Name:

Quiz 2: Corporate Finance

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

1. Gorgon Enterprises is a travel firm and is considering investing in a new hotel in Brazil. You have been provided with the following information on the company:
    a. Gorgon is in hotel, airline and travel services businesses and has an unlevered beta of 0.9. The unlevered beta of just the hotel business is 1.1.
    b. Gorgon has 150 million shares trading at $10 per share. It has no conventional debt but it does have lease commitments of $200 million a year, each year for the next five years. The pre-tax cost of debt for Gorgon is 3%.
    c. Gorgon currently operates only in the United States and the equity risk premium for the US is 6%; the equity risk premium for Brazil is 10%.

    Gorgon plans to fund this project with the same mix of debt and equity that it uses as a firm today. The US ten-year treasury bond rate is 2%, the Brailian ten-year US$ denominated bond rate is 6% and the tax rate is 40%. Estimate the cost of capital that Gorgon should use for its Brazilian hotel project. (3 points)

2. You own and operate a gym, which currently has 3000 members, who pay $500/year for their membership. You currently generate about $400,000 in EBITDA (earnings before interest, taxes and depreciation) from the business.
    - Looking to take advantage of the surge in demand for yoga classes, you are considering investing $1.5 million into new yoga facilities today, a capital investment that can be depreciated straight line over five years to a salvage value of $500,000.
    - You expect the number of members to increase by 60% (paying the same annual fee as your existing members) and to earn generate an EBITDA margin (EBITDA as a percent of sales) of 40%, on these members.
    - You also believe that you can continue to use your existing cost of capital of 15% in judging this investment and that your tax rate will be 40%.
        a. Estimate the annual incremental cash flows for the next five years from making this investment. (2 points)

b. Estimate the NPV of this investment. (1 point)

c. How much of your NPV can be attributed to the tax benefits that you are getting from depreciation? (1 point)

3. You are reviewing the NPV calculation for a project, where the analyst has come up with a NPV of -$100,000. You notice two mistakes:
    a. The analyst computed the cash flows after allocating G&A expenses of $50,000 to the project each year for the five years of the project life time. Only 20% of these expenses are a direct consequence of this project.
    b. The analyst also ignored the fact that the project would require an up-front investment of $60,000 in working capital, which will be fully salvaged at the end of the project life.

    If the cost of capital for this project is 12% and the company's tax rate is 40%, estimate the corrected NPV for this project. (3 points)