Spring 2005 Name:

Quiz 3: Corporate Finance

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

1. Gordon Inc. is a publicly traded firm with 40 million shares trading at $ 20 a share and no debt outstanding. The firm announces that it will be borrowing $ 400 million and buying back its own stock. On the announcement, the stock price increases to $ 21 a share. If the tax rate for the firm is 40% and the cost of bankruptcy is estimated to be 30% of the unlevered firm value, estimate the probability of bankruptcy with the additional debt. (You can assume that the market is efficiently assessing the effect of the additional debt on firm value) (3 point)

2. Genera Inc. is a publicly traded chemical company with 150 million shares trading at $ 40 a share and $ 2 billion in outstanding debt; the market interest rate on the debt is 7%. The firm has a cost of capital of 12.30% and the marginal tax rate is 40%. The firm is considering issuing new equity and retiring all of its debt. Estimate the new value for the firm if it goes through with this transaction? (The riskfree rate is 5% and the market risk premium is 4%. You can also assume no growth in perpetuity) (4 points)

3. Entrata Corporation is in two businesses – transportation and tourism, deriving two thirds of its revenues from the former and one third from the latter. Projects in the transportation business typically have long durations (with an average duration of 10 years), whereas projects in the tourism business have shorter durations (with an average duration of 5 years). The firm currently has a debt to capital ratio of 50% and the debt has an average duration of 6 years.

a. Estimate the duration of Entrata's assets (based on its current business mix). (1 point)

b. Now assume that Entrata plans to borrow money to fund a doubling of its tourist business while holding its transportation business at its existing value. If the objective is to match the debt duration to asset duration for the firm after the new debt issue, estimate the duration of the new debt issue. (2 points)