Quiz 2: Equity Instruments

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

1. You have been asked to review a valuation of Springfield Foods, a food processing company, done by an analyst. The analyst has estimated a value per share of $14 for the 10 million shares outstanding in the company; there is no debt outstanding. She assumed that the firm was in stable growth, growing at 3% a year with a return on capital of 10% (which is equal to the cost of capital for food companies). While you do not disagree with these assumptions, you notice that the analyst used the consolidated financial statements and that Springfield owns 50% of Nova Bottlers, a beverage company. The analyst subtracted the minority interest in Nova of $20 million that was shown on Springfield’s balance sheet to arrive at her estimate of value of $14 per share. While Nova has the same growth rate in perpetuity as Springfield, its return on capital is 12%, its cost of capital is 8% and it generates 25% of the after-tax operating income in Springfield’s consolidated statement.
   a. Based upon her assessment of firm value, what after-tax operating income is the analyst estimating for Springfield next year? (2 points)
b. Estimate the value of Nova Bottler’s as a standalone enterprise. (2 points)

c. Estimate the correct value of equity per share in Springfield Foods. (2 points)
2. Answer the following multiple-choice questions. Each question is worth 1/2 point.
   a. Which of the following multiples is not consistently defined for a cable company?
      i. Market value of Equity/ Book value of Equity
      ii. Enterprise Value/ Net Income from continuing operations
      iii. Market value of Equity/ Net Income from continuing operations
      iv. Enterprise Value / Earnings before interest and taxes
      v. Market value of Equity/ Cable Subscriber
      vi. Enterprise Value/ Cable Subscriber
   b. You are trying to find undervalued firms, using EV/EBITDA ratios. Which of the following companies is most likely to be undervalued? (Undervalued = Stock you would buy)
      i. Stock with low EV/EBITDA, High Tax Rate, High Return on capital
      ii. Stock with high EV/EBITDA, High Tax Rate, Low Return on capital
      iii. Stock with low EV/EBITDA, Low Tax Rate, High Return on capital
      iv. Stock with high EV/EBITDA High Tax Rate, High Return on capital
      v. Stock with low EV/EBITDA, High Tax Rate, Low Return on capital
   c. You are comparing two bank valuations. Both banks have the same expected growth rate and are viewed as equally risky. Bank A, though, has a return on equity of 20% whereas Bank B has a return on equity of 15%. Which of the following is most likely to be true?
      i. They should trade at the same PE ratio
      ii. Bank A should have the higher PE ratio
      iii. Bank B should have the higher PE ratio
   d. The PE ratio is divided by the expected growth rate to estimate the PEG ratio. Which of the following statements relating to the PEG ratio is true?
      i. Stocks that trade at a PEG ratio less than one are undervalued.
      ii. Riskier stocks will tend to trade at higher PEG ratios
      iii. The PEG ratio will increase as interest rates increase
      iv. Stocks with very low growth rates will tend to have high PEG ratios.
3. Riberto Construction, a private construction company, is planning an initial public offering. The firm has a book value of equity of $50 million and expects to earn $10 million in net income next year. If the firm has a cost of equity of 12% and expects to grow 4% a year in perpetuity, what price to book value ratio would you expect the firm to trade at? (You can assume that the firm will maintain its return on equity and cost of equity in perpetuity) (2 points)