Final Exam of Financial Theory

Problem 1:

Part 1:

A company has issued a 12-year bond with the following characteristics:

- ✓ **Face Value** = $1,000
- ✓ **Annual Coupon Rate** = 8%
- ✓ **Market Interest Rate (YTM)** = 6%

Required: Calculate the value of this bond.

Part 2:

The following table provides information about two different bonds:

Bond	Face value	Coupon Rate	Market Price	Time to Maturity	Call price	Time to Call
Bond A	$1,000	12%	$920	6 years	-	-
Bond B	$1,000	9%	$1,120	10 years	$1,050	5 years

Required:

- For ***Bond A,*** compute the Yield to Maturity (YTM).
- For ***Bond B,*** compute the Yield to Call (YTC) assuming the bond is called at the first available date.

Problem2:

You have the following information about a stock:

Year 1- Dividend: $1.00

Year 2: $1.20 (20% growth)

Year 3: 20% growth

Years 4–5: Dividends grow at 6% annually

From Year 6 onward: Dividends grow at 3% forever.

Required return: 10% for years 1–5, and 8% from Year 6 onward

Required:

1. Calculate the intrinsic value of the stock using the three-stage dividend discount model.

2. If the stock's current market price is $18, determine whether it is undervalued or overvalued.

3. Now suppose the company had the following data (all values in millions):

Net income (NI): $120; Depreciation: $15; Capital expenditures (CapEx): $40; Change in working capital: -$10; Net borrowing: $5.

- **a.** Calculate the Free Cash Flow to Equity (FCFE).
- **b.** Given Beta (β)=1.37; Rf= 3.2%; and Rm equals 5% of FCFE Value, using the Capital Asset Pricing Model (**CAPM)** calculate the company's cost of equity.

Question:

Choose the right answer:

1. **Which of the following statements about risk-averse investors is *most accurate*? A risk averse investor:**

A. Seeks out the investment with minimum risk, while return is not a major consideration.
B. Will take additional investment risk if sufficiently compensated for this risk.
C. Avoids participating in global equity markets

2. **Businesses issue shares in order to:**

A. Drive demand
B. Raise capital
C. Reduce tax exposure

3. **What are the three ways of making money from an investment?**

A. Interest, dividends and capital gains
B. Buying, selling and holding
C. Profit, rate of return and assets

4. **Investing is:**

A. Basically gambling, but more socially acceptable
B. A guaranteed way to join the 1%
C. Putting two dollar bills into a jar and hoping they make baby dollars
D. A way of personally sharing in the growth of the broader economy

5. **Investors can eliminate what type of risk by diversifying?**

A. Systematic risk
B. Unsystematic risk
C. Beta risk
D. Total risk

6. **Ahmad is considering investing in stocks. Which is the less risky investment?**

A. Stock A: SD = 10%; E(R) = 10%
B. Stock B: SD = 6%; E(R) = 10%
C. Stock C: SD = 8%; E(R) = 12%
D. Stock D: SD = 20%; E(R) = 24%