Q1. JLJ Corporation has the following balance sheet:

|  |  |  |  |
| --- | --- | --- | --- |
| **Assets (2-year average)** | | **Debt and Equity (2-year average)** | |
| Cash and marketables | 2,900 | Accounts payable | 1,459 |
| Inventories | 1,746 | Accrued liabilities | 1,085 |
| Current Assets | 4,646 | Current Liabilities | 2,544 |
| PPE | 4,750 | Long-term debt | 4,953 |
| Other assets | 425 | Stockholder’s equity | 2,324 |
| Total assets | 9,821 | Total debt + equity | 9,821 |
|  |  |  |  |

a) What is JLJ’s current ratio?

b) What is JLJ’s leverage ratio ?

c) If the aggregate market value of JLJ is $12,635, what is the market to book ratio?

Q2. JJ’s Finance Emporium most recent financial statements showed net income of $3.33 per share and the ROE of JJ’s was 20%. The dividend payout ratio was 40%.

(a) Find the growth rate (g) of JJ’s.

(b) Assuming that today’s stock price is $70, what is JJ’s capitalization rate (**use the dividend discount model**)?

Q3. You are considering selling a Treasury bill and observe the following quotes for T-bills in the market:

|  |  |  |
| --- | --- | --- |
| **Maturity (days)** | **Bid Yield** | **Asked Yield** |
| 60 | 4.84 | 4.75 |
| 88 | 4.83 | 4.74 |
| 116 | 4.82 | 4.73 |
| 144 | 4.81 | 4.72 |
| 172 | 4.80 | 4.71 |
|  |  |  |

Ignore transaction costs…

1. The bill has 116 days left to maturity. At what price can you sell the bill to the dealer?
2. You bought the bill 56 days ago. What is your EAR?
3. Assuming a new investor was to buy the 116-day T-bill today, what would be the EAR if that investor held it to maturity?

Q4. Assume you are a venture capitalist who will make a $5.5 million investment today and will recoup your investment in 8 years. The expected net income of the project in year 8 is $4.7 million and the comparable P/E ratio for the industry is 35. Your required rate of return is 45%.

(a) Compute the future value of your investment .

(b) What is the terminal value of the project ?

(c) What is percentage of the project do you own?

(d) Assume the firm originally had 250,000 shares outstanding, what is the total number of new shares after your investment? What is the price per share that you paid?

Q5. (*18 points*) Ted Boone is feeling bearish on airline stocks and decides to short sell 1,000 shares of United Airlines (UAL). He posts a 60% initial margin and has a required maintenance margin of 33%. UAL’s current market price is $42 per share.

(a) What are Ted’s initial sale proceeds and how much margin did he post in dollars? Show the t-accounts.

(b) Assume that the stock price rises instead. At what price would Ted get a margin call?

**Formulas:** ROE = AU x PM x EM (reduced form)

PM = NI / Sales

AU = Sales / TA

EM = TA/TE

Current Ratio = CA / CL

Acid-Test Ratio = (CA – Inv.) / CL

Turnover = COGS / Inv.

Interest Coverage = EBIT / Int. Exp.

Market to Book = Market Value / Book Value

P/E = Price / Earnings

Dividend Yield = Dividend / Price

HPR = (P1 – P0 + D1)/ P0

g = ROE x plowback ratio

P/E = 1/k x (1 + PVGO/(E/k))

P/E = (1 – plowback) / (k-g)

EAR = (1 + HPR)365/n – 1

rbdy = (Discount/Par) \* (360/n)

Price = 10000\*[1-(rbdy\*(n/360))]

V = (D1)/k – g

FV = (1+k)n x Pmt

Terminal Value = P/E x NI

Percentage Ownership = FV / TV

New shares = [%Ownership/(1-%Ownership)] \* Old Shares

Price = Investment / Shares Outstanding

Maintenance margin = (Q\*P – Debt) / (Q\*P)

Maintenance margin = (Asset – Q\*P) / (Q\*P)