FA Module 11 Solvency ratios practice exam questions

covering non-debt liabilities, debt-to-equity ratio, debt to assets ratio, debt to (total) capital ratio

(The attached PDF file has better formatting.)

On December 30, 20XX, a firm has non-debt liabilities of 188, a debt-to-equity ratio of 42%, and a debt to assets ratio of 18%. On December 31, 20XX, the firm issues additional debt of 79 and uses the proceeds to repurchase outstanding shares.

Question 11.1: Debt

What is the firm's debt on December 30, 20XX?

Answer 11.1: (188 × 0.18) / (1 – 0.18 – (0.18 / 0.42) ) = 86.45

Let dter = debt-to-equity ratio and dtar = debt to assets ratio

debt / (non-debt liabilities + debt + debt / dter) = dtar ⇛

debt = (non-debt liabilities + debt + debt / dter) × dtar ⇛

debt × (1 – dtar – dtar / dter) = non-debt liabilities × dtar ⇛

debt = non-debt liabilities × dtar / (1 – dtar – dtar / dter)

Question 11.2: Equity

What is the firm's equity on December 30, 20XX?

Answer 11.2: 86.45 / 0.42 = 205.83

Question 11.3: Assets

What are the firm's assets on December 30, 20XX?

Answer 11.3: 86.45 / 0.18 = 480.28

Question 11.4: Debt

What is the firm's debt on December 31, 20XX?

Answer 11.4: 86.45 + 79 = 165.45

Question 11.5: Equity

What is the firm's equity on December 31, 20XX?

Answer 11.5: 205.83 – 79 = 126.83

Question 11.6: Debt to (total) capital ratio

What is the firm’s debt to (total) capital ratio on December 31, 20XX?

Answer 11.6: 165.45 / (165.45 + 126.83) = 0.566