Konvexity

Solutions to Item Sets

1. Correct Answer is A: Fair value of assets = 310 + (750+150) = 1,210. Fair value of liabilities = 120+420 = 540. Fair value of net assets = 1,210 – 540 = 670. Purchase price for the company = 560/0.8 = 700. Total goodwill = 700 – 670 = $30 million.
2. Correct Answer is A: Goodwill under partial goodwill method = 0.8*Full goodwill = 0.8*30 = $24 million.
3. Correct Answer is C: Statement 1 is not accurate. The minority interest is higher under full goodwill approach as compared to the partial goodwill approach.
4. Correct Answer is B: Implied fair value of goodwill = 540 – 520 = $20 million. Goodwill impairment = Carrying value of goodwill minus the implied fair value of goodwill = 30 – 20 = $10 million.
5. Correct Answer is B: The ROE of proportionate consolidation method and equity method will be same and the ROE of both will be higher than that of acquisition method.
6. Correct Answer is C: Net income will be same under all the three methods.

7. Correct Answer is B: The foreign currency has appreciated. So, the liabilities will increase under both the methods.
8. Correct Answer is C: The foreign currency has depreciated. There will be a translation gain under temporal method for net monetary liability exposure. Under current rate method, there will be negative translational adjustment in the balance sheet.
9. Correct Answer is A: The foreign currency has depreciated. The shareholders' equity will decrease under the temporal method if there is net monetary asset exposure. The shareholders' equity will also decrease under the current rate method.
10. Correct Answer is C: The foreign currency has appreciated. The net income will decrease under the temporal method for net monetary liability exposure. The net income will increase under the current rate method.
11. Correct Answer is C: The foreign currency has appreciated in both the cases. The impact of appreciation will be more when the change is more. But as we do not know whether the company has net asset exposure or net liability exposure, we can't say about the change in total profit.
12. Correct Answer is A: As the percentage change in inflation rate is more than the percentage change in the exchange rate, the value of the asset will increase and will be more than the historical value for the given method.

    The temporal method will be used for the currency translation. The financial statements after the currency translation are given below:

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Balance Sheet (in thousands)

As of 31 December 2012	**In Euros**	**Exchange Rate**	**In USD**
Cash and cash equivalents	320	1.24	396.8
Accounts receivable	280	1.24	347.2
Inventories	450	1.20	540
Total Current Assets	1,050		1,284
Property, plant and equipment	1,950	1.18	2,301
Less: accumulated depreciation	100	1.18	118
Total assets	**2,900**		**3,467**
Accounts payables	250	1.24	310
Total current liabilities	250		310
Long-term debt	1,480	1.24	1,835.2
Total liabilities	1,730		2,145.2
Common stock and paid in capital	1,020	1.18	1,203.6
Retained earnings	150	To balance	118.2
Total shareholders' equity	1,170		1,321.8
Total liabilities and shareholders' equity	**2,900**		**3,467**

Income Statement and Statement of Retained Earnings (in thousands)

For the year ended 31 December 2012	**In Euros**	**Exchange Rate**	**In USD**
Sales	1,800	1.22	2,196
Cost of goods sold	750	1.20	900
Depreciation and amortization expense	100	1.18	118

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SG&A	350	1.22	427
Interest expense	150	1.22	183
Income tax expense	180	1.22	219.6
Income before trans gain/loss	270		348.4
Translation gain/loss	N/A	To balance	-82.6
Net income	270		265.8
Less: Dividends, 15 Nov 2012	120	1.23	147.6
Retained earnings, 31 December 2012	150	From B/S	118.2

13. Correct Answer is A: Total retained earnings is $118,200.
14. Correct Answer is A: Net income is $265,800.
15. Correct Answer is B: Total current assets are $1,284,000.
16. Correct Answer is A: The total liabilities are $2,145,200.
17. Correct Answer is B: Fixed asset turnover = Sales/ PP&E (net) = 2,196/ (2,301-118) = 1.006.
18. Correct Answer is C: Operating profit margin = Operating profit/Sales = (2,196-900-118-427)/2,196 = 0.34198 = 34.20%.

19. Correct Answer is A: Total expense for the stock granted on 1st July 2009 = 2 million*15.40 = $30.8 million. It will be expensed over the service period which is 2.5 years. The expense in 2009 = (0.5/2.5)*30.8 = $6.16 million.
20. Correct Answer is B: Share based expense from the shares granted in 2009 = (1/2.5)*30.8 = $12.32 million. Share based expense from the shares granted on 1st January 2011 = 50,000*16.8 = $0.84 million. Total expense = 12.32 + 0.84 = $13.16 million.
21. Correct Answer is C: Disclosure 4 is not required. All other disclosures are required under US GAAP.
22. Correct Answer is C: Statement 2 is incorrect as the expense is expensed over the service period. Statement 3 is incorrect as expense is expensed in the period between the grant date and the vesting date. Statement 4 is incorrect because the fair value of option is different than the market value of the options because the options have different characteristics than the traded options.
23. Correct Answer is C: For stock appreciation rights, there is a cash outflow and there is no dilution of shareholders equity.
24. Correct Answer is A: Stock appreciation rights and stock options have limited downside potential and unlimited upside potential. While in case of stock grants, the downside potential is also huge. So, the risk aversion would be most in case of stock grants.

25. Correct Answer is C: Total loss to be recognized in P&L under U.S. GAAP = Current service costs + Interest expense on pension obligation - Expected return on plan assets + Actuarial loss (gain) (maximum upto 10% of the greater of the value of the planned assets or the projected benefit obligation) + amortized loss from OCI = 75 + 712*0.095 – 674*0.11 + [26 + (674*0.11 – 62)] + (124+72)/10= $126.24 million.
26. Correct Answer is A: Total decrease in OCI = Past services cost – Amortization of OCI for the year + Actuarial loss (gain) above the corridor = 712*0.095 – [(124/10) + (72/10)] + 0 = 67.64 – 19.60 = $48.04 million.
27. Correct Answer is B: Value of planned assets at the beginning of 2012 = 674 + 120 + 62 = 856. Value of planned assets at the beginning of 2013 = 856 + 38 + 84 = $978 million.
28. Correct Answer is A: Ending PBO = 712 + 75 + 712*0.095 + 26 = 880.64. Ending planned assets = 856. Ending funded status = 856 – 880.64 = -24.64 million. Net liability of $24.64 million.
29. Correct Answer is B: Statement 2 is inaccurate as an increase in the assumed compensation growth rate increases the pension obligation. Statement 3 can be accurate.
30. Correct Answer is A: An increase in expected returns will lead to decrease in periodic pension expense under U.S. GAAP.