SOLUTION 1

a) i) Western Oil Company

Future costs associated with the acquisition/construction and use of non-current assets, such as the environmental costs in this case, should be treated as a liability as soon as they become unavoidable. For Western Oil, this would be at the same time as the platform is acquired and brought into use. The provision is for the present value of the expected costs and this same amount is treated as part of the cost of the asset. The provision is 'unwound' by charging a finance cost to the statement of comprehensive income each year and increasing the provision by the finance cost. Annual depreciation of the asset effectively allocates the (discounted) environmental costs over the life of the asset.

Statement of comprehensive income for the year ended 31 December 2012

	GHc'000
Depreciation (see below)	36,900
Finance costs (GHc69 million x 8%)	5,520

Statement of financial position as at 31 December 2012

Non-current assets	
Cost (GHC300 million + GHC69 million (GHC150 million x 0·46))	369,000
Depreciation (over 10 years)	(36,900)
	332,100
Non-current liabilities	
Environmental provision (GHC69 million x 1·08)	74,520

AMORTISED COST STATEMENT

Year	Beginning	E/R 25%	NUR 20%	ENB Balance
Jan 2012	500,000	125,000 Income Stat	(100,000) Cash flow	525,000 Stat. of Fin Position

Income Stat. -- 2012 December

Int. Exp 125,000

Import loss 217,800

600,000 of
@ 75% for
3 years

Stat. of Fin. Position

Loan 307,200

307,200 PL

Import loss 217,800

ii) **Asona Ltd**

*In 2011
The Income statement for 2011 shows a depreciation of GHC100,000 (GHC2,000,000/20years)

The statement of financial position as at 31 December 2011 shows the following:

- The asset at a carrying amount of GHC2,470,000 (under non-current assets)
- A revaluation surplus of GHC570,000 (GHC2,470,000 – GHC1,900,000) is shown under equity*

  * ***Not required by the question***

In 2012

- Depreciation of GHC130,000 (GHC2,470,000/ 19 years(remaining useful life)) is charged to income statement
- A transfer should be made from revaluation surplus to retained earnings through the statement of changes in equity of the excess depreciation of GHC30,000 (130,000 charged less 100,000 (1,900,000/19) based on the original cost) and thereby reducing the revaluation surplus to GHC540,000
- The carrying amount of the asset as at 31 December 2012 is now GHC2,340,000 (GHC2,470,000 – GHC130,000) but this should be reduced to the recoverable amount of GHC1,600,000.
- The impairment loss is GHC740,000, of which GHC540,000 should be recognized in other comprehensive income (reducing the revaluation surplus to nil) and the GHC200,000 remainder is recognized as an expense in the income statement

iii) **Aboabo Ltd**

The financial difficulty and granting of concession to Adom Ltd are both objective evidence of impairment. The recoverable amount should be calculated as GHC307,200 by discounting the GHC600,000 agreed repayment at the original effective interest rate of 25% over a three year period (2012 -2015) (GHC600,000 X $1/1.25^3$). An impairment loss of GHC217,800 (525,000 -307,200) should be recognized at 31 December 2012.

Income Statement for 2012 (extracts)

Interest Income (25% of 500,000)	125,000
Impairment loss	(217,800)

SOFP as at 31 December 2012
Non Current asset

Financial Asset	307,200

b) Demerits of Historical Cost Accounts

- The net book values of non-current assets are often substantially below their current value.
- The Statement of Financial Position figure for inventory reflects prices ruling at the date of purchase or manufacture rather than at the year- end.
- Charges made in arriving at the profit do not reflect the current value of assets consumed. The effect is to exaggerate the profit in real terms.

  If the profit determined in this way were distributed in full, the level of operations would have to be curtailed.
- No account is taken of the effect of increasing prices on monetary items.

  For example, the cash tied up in receivable increases even where the volume of operation remains the same.
- The overstatement of profits and the understatement of assets prevent a meaningful calculation of return on capital employed.
- Adherence to original historical costs leads inevitably to the misstatement of asset value and profitability. Statement of Financial Position no longer represents a meaningful representation of the economic state of affairs of a business.
- As a result of the above, users of financial statements find it extremely difficult to assess a company's progress from year to year or to compare the results of different operations.

The application of CCA

- The basic concept underlying current cost accounting is that the firm is a going concern which is continuously replacing its assets. Therefore the cost of consuming such assets in the profit generation process should be equivalent to the cost of their replacement. It focuses on the specific commodities and assets employed by the firm taking into account changes in the price of such commodities and assets reflected in specific price indices.

- Current cost accounting is addressed to the concept of capital maintenance interpreted as maintaining the operating capacity of the firm. It involves:

- Calculating current operating profit by matching current revenues with the current cost of resources exhausted in earning those revenues.
- Calculating holding gains and losses
- Presenting the Statement of Financial Position in current value terms.

- The current cost statement of comprehensive income is charged with the value to the business of assets consumed during the period. In particular, the charges for consuming inventory (cost of sales) and non-current assets (depreciation) are based on current rather than historical values. This requires the following adjustments to be made to the historic cost profit:
    - Cost of sale adjustments
    - Depreciation adjustment
    - Monetary Working Capital adjustment, and
    - Gearing adjustment

- The current cost statement of financial position reflects the current value of inventory and non-current assets. These are stated at current value to the business or deprival values [the lower of replacement cost and recoverable amount

SOLUTION 2

(a) WORKINGS

		Shareholdings	
		Tema	Kumasi
Group Interest			
160,000 x 100% / 200,000		80	60
N C I		20	40
		100	100
Reduction in NCI			
80% x 20	16		
Existing control	60	76%	

Calculation of Goodwill		Tema	
	Group		NCI
Cost of Investment			
160,000 x 2	320,000		
Fair value			
40,000 shares for	______		125,000
	320,000		125,000

Shareholders Fund			
Stated capital			
Ordinary shares	200,000		
Income surplus	60,000		
Capital surplus	40,000		
	300,000		
X 80%		240,000	60,000
		80,000	65,000
Total Goodwill [80,000 + 65,000]		145,000	

Calculation of Goodwill		Kumasi	
	Group		NCI
Cost of Investment	130,000		
Fair value			85,000
Shareholders Fund			
Stated capital	100,000		
Income surplus	30,000		
Capital surplus	50,000		
	180,000		
X 80%		108,000	72,000
		22,000	13,000
Total Goodwill [22,000 + 13,000]			35,000

Calculation of NCI

	Tema	Kumasi
Stated Capital		
Ordinary shares	200,000	100,000
Income surplus	100,000	80,000
Capital surplus	80,000	50,000
	380,000	230,000
	20%	40%
NCI	76,000	92,000
Goodwill	65,000	13,000
	141,000	105,000
NCI in Equity	150,000	20,000
Preference	291,000	125,000

[291,000 + 125,000]	416,000
Less Reduction of NCI	(42,000)
	374,000

Calculation of NCI Reduction

$$\frac{16}{40} \times 105,000 = 42,000$$

Other Equity

Cost of Investment	50,000
Reduction in NCI	42,000
	- 8,000

Calculation of Income Surplus

		GHC
Balance b/f		150,000
Post Acquisition		
Tema (100,000 – 60,000) x 80%		32,000
Kumasi (80,000 – 30,000) x 60%		30,000
		212,000
Less unrealised profit		
25% x 20,000	(5,000)	
20% x 5,000	1,000	
Unrealised profit	(15,000)	
		(19,000)
Balance c/d		193,000

ACCRA LTD
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
AS AT 31ST DECEMBER 2012

	GHC	GHC
Non-Current assets		
Property, plant & equipment (420 + 410		
400, + 1 – 5)		1,226,000
Goodwill (145 + 35)		180,000
Investment		1,406,000
Current assets		100,000
Inventory (150 + 120 + 100 – 15)	355,000	
Trade receivables (200 + 150 + 130)	480,000	
Bank balance (100 + 50 + 20)	170,000	
		1,005,000
		2,511,000
Equity and Liabilities		
Stated capital		
Ordinary shares		500.000
Preference shares		200,000
Income surplus		193,000
Capital surplus		232,000
Other equity		(8,000)
NCI		374,000
		1,491,000
Long term debt		
30% Bonds (100 + 120 + 50)		270,000
Current Liabilities		
Trade payables (100 + 150 + 300)	550,000	
Tax (70 + 80 + 50)	200,000	
		750,000
		2,511,000

(b) Loan Gambia Subsidiary

January 2012	-	Individual Account
Loan Amount		GHC3m
	Rate GHC1:15	D45m
31 December 2012		
Loan Amount		GHC3m
	Rate GHC1:20	GHC60m
Exchange loss		GHC15m

In Group Accounts		
In Average Rate	D15 m/17.5 =	857,143
Movement in Equity		
In Gambia's Book		
	15,000,000/20	750,000
Exchange loss		107,143

OR

In the separate financial statement of ABC Ltd, there is no exchange difference in the entity's financial statements, as the loan has been made in GHC.

In the foreign subsidiary's financial statements, the loan is translated into its own functional currency (D) at the rate of GHC1= D15, or D45 million as of January 1, 2012. At year-end, the closing rate will be used to translate this loan. This will result in the loan being restated at D60 million (GHC3 million × 20), giving an exchange loss of D15 million, which will be shown in the subsidiary's income statement.

In the group financial statements, this exchange loss will be translated at the average rate, as it is in the subsidiary's income statement, giving a loss of (D15 million/17.5), or approximately GHC857,000. This will be recognized in equity.

There will be a further exchange difference (gain) arising between the amount included in the subsidiary's income statement at the average rate and at the closing rate: that is, GHC857,000 minus GHC750,000 (D15 million/20), or D107,000. Thus the overall exchange difference is GHC750,000. This will be recognized in equity.

SOLUTION 3

(i) If the Company decides to windup

Break up values	GHC	GHC
Land & Buildings		80,200
Property, Plant & Equipment		42,300
Computers & Software		32,100
Investment		16,400
Inventories (46,700 – 6,200)		40,500
Trade receivables		
- 60% - (38,400 x 60% x 0.15)	3,456	
- 40% - (38,400 x 40% x 55%)	8,448	11,904
		223,404
Less Liabilities		
Bank overdraft	36,800	
Trade payables	50,700	
Liquidation expenses	11,250	
Short term credit	10,000	
Medium term facility	80,000	
Interest on medium term (80,000 x 12% x 4 years)	38,400	(227,150)
Balance available		(3,746)
Preference shareholders	300,000	
Preference share dividend (300,000 x 14% x 2 years)	84,000	
Ordinary shareholders	100,000	
		(484,000)
Maximum Loss on Liquidation		(487,746)

Analyzed as follows:

		GHC		
1) Ordinary Shareholders	-	100,000	-	100%
2) Preference Shareholders	-	374,000	-	100%
3) Medium term Creditors [(80,000 + 38,400 – 104,654] ÷ 118,400)		13,746		11.6%

If the Company Decides to Re-organize)

	Book Value GHC	Revalued Amount GHC	Loss on Re-organization GHC
Buildings & land	140,700	195,000	(54,300)
Property, plant & equipment	99,500	120,500	(21,000)
Computers & software	110,600	95,000	15,600
Investment	40,200	21,000	19,200
Inventories	46,700	40,500	6,200
Receivables	38,000	11,904	27,096
Income surplus		127,800	
Capital surplus		(26,400)	
Gain medium term facility (80,000 x 40%)		(32,000)	
Maximum loss on Re-organization			(61,596)

Advice to Directors

	Absolute Amount GHC	Cost Impact on Equity %
Net loss on Winding-up	487,746	166.7
Net loss on Re-organization	61,596	38.5

Recommendation: **The Directors should re-organize the company.**

(ii) STATEMENT OF FINANCIAL POSITION AS AT 1 JANUARY, 2013

	GHC	GHC
Non-Current Assets		
Land & buildings	195,000	
Property, plant & equipment	120,500	
Computers & software	95,000	
		410,500
Investment		21,000
		431,500
Current Assets		
Inventories	40,500	
Receivables	11,904	
	52,404	
Current Liabilities		
Trade payables	(50,700)	
Net current assets		1,704

		433,204
Less 12% Medium Term Facility		(48,000)
Net Assets		385,204
Financed By:		
Stated capital		
	385,204	

Notes:

(i) Allocation of Loss on re-organization

	Ordinary Shares	Preference Shares	Total
	GHC	GHC	GHC
Balance b/f	100,000	300,000	400,000
Share of Loss	(61,596)		(61,596)
	38,404	300,000	338,404

(ii) Issue of Additional Shares

Bank Overdraft	-	36,800	
Short-Term Credit	-	10,000	
		46,800	

(iii) Stated Capital:

Ordinary shares	-	38,404	
Issues of shares	-	46,800	
			85,204
Preference shares			300,000
			385,204

SOLUTION 4

Net Assets Method	GHC'000
Net Assets as per the draft account	14,400
Adjustments:	
Revaluation surplus –buildings	1,500
Fair valuation surplus –AFSFA	100
Allowance for doubtful debts	(750)
Impairment loss	(20)
Value of business	15,230

Price earnings Ratio Method

Value of business = Earnings x PE Ratio

Earnings	GHC'000
Per draft accounts [GHC0.35 X 8 million shares]	2,800
Adjustments	
Allowance for doubtful debts	(750)
Impairment loss	(20)
	2,030

PE Ratio

Taken that the PE Ratio of the unlisted entity must be adjusted for lack of marketability and higher risk

PE Ratio of SHC = 160p/28 p =5.7

Adjusted to say 4

Value of business = GHC2, 030,000 X 4 = GHC8,120,000

Dividend Growth method

Value of business = Do(1+g)/(DY-g)

Do = GHS0.20 X 8,000,000 shares = GHC1,600,000

DY = that of listed entity (appropriately adjusted)

= 24p/160p =15%

Adjusted to say 20%

Value of business = $\frac{\text{GHC1,600,000X 1.05}}{0.20 - 0.05}$

= GHC1,680,000/0.15

= GHC11,200,000

Summary	GHC
PE Ratio	8,120,000
Dividend growth	11,200,000
Net Assets	15,230,000

b) **Comment on relative merits of the methods used, and their suitability**

Asset Based Valuation
Valuing a company on the basis of its asset values alone is rarely appropriate if it is to be sold on a going concern basis. Exceptions would include property investment companies and investment trusts, the market values of the assets of which will bear a close relationship to their earning capacities.
Knowledge of the Net Asset Value (NAV) of a company will, however, be important as a floor value for a company in financial difficulties or subject to a takeover bid. Shareholders will be reluctant to sell for less than the net asset value even if future prospects are poor.

P/E Ratio Valuation
The P/E ratio measures the multiple of the current year's earnings that is reflected in the market price of a share. It is thus a method that reflects the earnings potential of a company from a market point of view. Provided the market is efficient, it is likely to give the most meaningful basis for valuation.

One of the first things to say is that the market price of a share at any point in time is determined by supply and demand forces prevalent during small transactions, and will be dependent upon a lot of factors in addition to a realistic appraisal of future prospects. A downturn in the market, economies and political changes can all affect the day-to-day price of a share, and thus its prevailing P/E ratio. It is not known whether the share price given for SHC was taken on one particular day, or was some sort of average over a period. The latter would perhaps give a sounder basis from which to compute a applicable P/E ratio.
Even if the P/E ratio of SHC can be taken to be indicative of its true worth, using it as a basis to value a smaller, unquoted company in the same industry can be problematic.

The status and marketability of shares in a quoted company have tangible effect on value but these are difficult to measure.

The P/E ratio will also be affected by growth prospects – the higher the growth expected, the higher the ratio. The growth rate incorporated by the shareholders of SHC is probably based on a more rational approach than that used by QHL.

In the valuation in (a) a crude adjustment has been made to SHC's P/E ratio to arrive at a ratio to use to value QHL's earnings. This can result in a very inaccurate result if account has not been taken of all the differences involved.

Dividend Based Valuation
The dividend valuation model (DVM) is a cash flow based approach, which valued the dividends that the shareholders expect to receive from the company by discounting them at their required rate of return. It is perhaps more appropriate for valuing a non-controlling

shareholding where the holder has no influence over the level of dividends to be paid than for valuing a whole company, where the total cash flows will be of greater relevance.

The practical problems with the dividend valuation model lie mainly in its assumptions. Even accepting that the required ‘perfect capital market’ assumptions may be satisfied to some extent, in reality, the formula used in (a) assumes constant growth rates and constant required rates of return in perpetuity.

Determination of an appropriate dividend yield/cost of equity is particularly difficult for an unquoted company, and the use of an ‘equivalent’ quoted company’s data carries the same drawbacks as discussed above. Similar problems arise in estimating future growth rates and the results from the model are highly sensitive to changes in both these inputs.

It is also highly dependent upon the current year’s dividend being a representative base from which to start.

The dividend valuation model valuation provided in (a) results in a higher valuation than that under the P/E ratio approach. Reasons for this may be:

- The share price of SHC may be currently depressed below its normal level, resulting in an inappropriate low P/E ratio.
- The adjustment to get to an appropriate P/E ratio for QHL may have been too harsh, particularly in light of its apparently better growth prospects.
- The dividend yield/cost of equity used in the dividend valuation model was that of SHC. The validity of this will largely depend upon the relative levels of risk of the two companies. Although they both operate the same type of business, the fact that SHC sells its material externally means it is perhaps less reliant on a fixed customer base.
- Even if business risks and gearing risk may be thought to be comparable, a prospective buyer of QHL may consider investment in a younger, unquoted company to carry greater personal risk. His required return may thus be higher than that envisaged in the dividend valuation model, reducing the valuation.

SOLUTION 5

Data Distribution Ltd

Assessment
Profitability
The company's gross profit margin is strengthening due to the South Korean phone, which can be purchased at very competitive prices and still be sold at half the price of competitive products. This can be further illustrated by comparing the 207% increase in revenue with a 285% increase in gross profit.

Similarly, overheads have only increased by 199%, even including one-off relocation expenses. Therefore, costs are being controlled despite the expansion, and the net margin is also strengthening. However, the overheads do not include all charges for advertising (see below). If these were included net profit would clearly fall. In addition, the company's warranty provisions do not appear to be calculated correctly and the expense is probably understated.

Return on capital employed has improved on the previous year, as the company has turned from a loss-making position to a profit. However, ROCE may be misleading as there is some doubt as to the suitability of capitalizing advertising expenditure and/or the cost of distribution rights. If these were charged as expenses, the company would continue to be in a loss-making position.

The improving profitability of the company is very reliant on the continued success of the South Korean phone, and in rapidly changing industry, this cannot be guaranteed.

Liquidity

Liquidity has deteriorated in the period, as evidence by both the current and quick ratios. The company has insufficient current assets from which to meet its current liabilities as they fall due.

This is coupled with very clear signs of overtrading, whereby the inventory turnover ratio has increased dramatically on the previous year. The company is holding very low levels of inventory compared to its increased levels of revenue, which may result in stock-outs and loss of goodwill. This low level of inventory appears to be caused by insufficient funds to finance the purchase of inventory. The company must raise further long-term finance if serious liquidity problems are to be avoided.

Solvency
The company is highly geared. Moreover, the gearing ratio in the appendix does not include the excessive overdraft included in current liabilities. Hence, actual gearing is even higher. Similarly, interest cover at 1.6 times is poor.

The company must raise more funds to survive, particularly if further expansion is to continue. However, lenders will see Data Distributors ltd as a high risk investment and will therefore expect a high return.

Appendix: Accounting Ratios

	Year ended 31 August 2012	2011
Profitability		
Return on capital employed		
= Operating Profit / (Total Assets - Current Liabilities)	510 / 6,425 = 7.9%	(98) / 3,700 = (2.6)%
Gross profit margin		
= Gross Profit / Revenue	3,600 / 16,000 = 22.5%	936 / 5,200 = 18.0%
Efficiency		
Asset turnover		
= Revenue / (Total Assets - Current Liabilities)	16,000 / 6,425 = 2.5 times	5,200 / 3,700 = 1.4 times
Inventory turnover		
= Cost of Sales / Inventories	12,400 / 788 = 15.9 times	4,264 / 520 = 8.2 times
Receivables collection period		
= Receivables / Credit Sales x 365	814 / (16,000 x 30%) x 365 x = 62 days	215 / (5,200 x 30%) x 365 = 50 days
Payables payment period		
= Payables / Cost of sales x 365	2,734 / 12,400 x 365 = 80 days	678 / 4,264 x 365 = 58 days
Liquidity		
Current Ratio		
= Current Assets / Current Liabilities	1,842 / 3,709 = 0.50	1,135 / 828 = 1.37
Quick ratio		
= (Current Assets - Inventory) / Current Liabilities	(1,842 - 778) / 3,709 = 0.29	(1,135 – 520) / 828 = 0.74
Solvency		
Debt/equity ratio		
= Long-term Debt / Capital and Reserves	2,084 / 4,013 = 0.52	
Interest cover		
= Operating Profit / Interest	510 / 320 = 1.6	