SUGGESTED SOLUTIONS

21404 – Strategic Financial Management

CA Professional (Strategic Level II) Examination
December 2013

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI LANKA

Answer No. 01

(a)
	Rs. '000
Loss on debtors = 70,000 x 10%	7,000
Loss on land & buildings 115,000 x 15%	17,250
Loss on sale of plant & machinery (30,000 x 60%)	18,000
Loss on sale of vehicles (4,000 x 25%0	1,000
Loss on sale of furniture (2,150 x 50%)	1,075
Loss on sale of inventory	
Raw materials (42,000x25%)	10,500
Work in progress (28,000 x 40%)	11,200
Finished goods (10,000 x 20%)	2,000
Executives – 150 x Rs. 125,000	18,750
Staff Assistants – 300 xRs. 60,000	18,000
Labour – 1,050 xRs.35,000	36,750
	141,525

Exit strategy is one of the most difficult issues in business. Such a strategy should be beneficial to the business and its owners. However, exit strategy is not straightforward and will involve consideration of a number of alternatives, e.g. sale, acquisition, liquidation, MBO, (management buy out) MBI (management buy in) etc.

In general, exit strategy planning will involve the following aspects: Determining Exit Option, Assessment of Business Worth, Maximizing Gains, Minimizing Risks, etc.

Apart from quantitative aspects, exit strategy involves behavioral aspects such as 'seller's remorse'. Thus, the exit strategy is just as important as starting up a business.

(b)

EBITDA = Rs. 40m + Rs. 8m + Rs. 5m
      = Rs. 53m

Therefore, value of the firm = Rs. 53m x 10 - Rs. 90m
                      = Rs. 440m

Net asset value as a going concern = Rs. 125m

Liquidation value		Rs.'000
Land	-	85,000
Buildings	-	12,750
Pant & machinery	-	12,000
Furniture	-	1,075
Vehicles	-	3,000
Inventory	-	56,300
Debtors	-	63,000
Suppliers	-	(28,650)
Debt	-	(90,000)
Retirement	-	(60,000)

Retrenchment	-	(73,500)
		(19,025)
Cash in hand b/f	-	2,500
Negative liquidation value	-	(16,525)

Hence, the foreigner's offer is very attractive, 3.52 times the going book value, and could change the company from a negative situation to a positive position.

(c)

	ROIC (%)	WACC (%)	ROIC-WACC (Spread)	Effect on company valuation
Brushes & mats	9	11	(2)%	Value destroyed
Soil erosion	16	13	3%	Value created
Mattresses	9	10	(1)%	Value destroyed
Traditional fibre	14	12	2%	Value created

	ROCE (%)	Retention (%)	Sustainable growth rate %	Sales growth rate (%)	Spread
Brushes & mats	15	80	12	15	(3) % cash deficit
Soil erosion	20	75	15	2	13% cash surplus
Mattresses	8	85	6.8	5	1.8% cash surplus
Traditional fibre	6	90	5.4	4	1.4% cash surplus

	EVA	Effect on cash
B & M	Negative	Cash deficit
Soil	Positive	Cash surplus
Mattresses	Negative	Cash surplus
Traditional Fibre	Positive	Cash surplus

To: The Board of Directors
From: Consultant

In the Coco Filaments group, both Soil Erosion and Traditional Fibre have been creating value and generating cash, whereas the Brushes and Mats, and the Mattress segments have been destroying value. However the Mattress segment has been able to generate cash.

Therefore, rather than taking a pessimistic view and closing down the operations across the group, the value creators (Soil Erosion and Traditional Fibre) could be retained. Even the value destroyers, instead of closing them down, initiatives should be looked into for turning around these ventures, looking at new products/new markets. Furthermore, an operational merger could be considered for common back office services such as finance which could be pooled as a common service to reduce overheads.

A close scrutiny of the gearing position and dividend policies needs to be considered for each SBU.

Product development teams need to be focused on the entire group in order to create synergies across the SBU's to develop a new array of products. There also needs to be strong communication lines with the

respective marketing teams on new trends, and the company should go in for the value- added range rather than competing with small timers.

Overall, the foreign collaboration could give insights to the markets, and the cash infusion would help to retire part of the group's debt.

Liquidation is clearly not the correct decision, as some products have good potential, particularly when the world is more conscious of a green environment.

Answer No. 02

(i)   Family Control

		Rs. million
Mr. Silva 95% (19m shares @ Rs. 10)		190
Devaka 5% (1m shares @ Rs. 10)		10
		200

Sale to Glacier

		Rs. million
Glacier 95% (19m shares @ Rs. 10)		190
Devka 5% (1m shares @ Rs. 10)		10
		200

Glacier & Amani

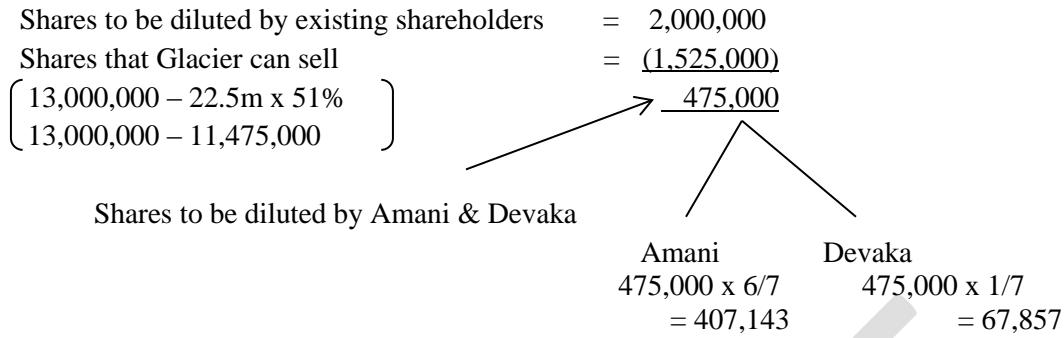|		Rs. million
Glacier 65% (13m shares @ Rs. 10)		130
Amani 30% (6m shares @ Rs. 10)		60
Devaka 5% (1m shares @ Rs. 10)		10
		200

Company value = Rs. 280m x 12 times
                = Rs. 3,360m

∴ 30% stake at cost to Glacier   =   Rs. 1,008m
Profit from sale to Amani and co. =   Rs.   150m
∴ selling price to Amani and co . =   Rs. 1,158m

(ii)   Post IPO

Current shareholding	20,000,000
Fresh issue of shares	2,500,000
	22,500,000

∴ minimum public float (22.5m x 20%)	=	4,500,000
Fresh shares already issued	=	(2,500,000)
Shares to be diluted by existing shareholders	=	2,000,000

Shares to be diluted by existing shareholders   =   2,000,000
Shares that Glacier can sell   =   (1,525,000)

$$\begin{bmatrix} 13,000,000 - 22.5m \times 51\% \\ 13,000,000 - 11,475,000 \end{bmatrix} \quad \longrightarrow \quad \underline{475,000}$$

Shares to be diluted by Amani & Devaka

	Amani	Devaka
	475,000 x 6/7	475,000 x 1/7
	= 407,143	= 67,857

Post IPO	Funds raised	New shareholding
Glacier	1,525,000 x Rs. 100 = Rs. 152.50m	11,475,000
Amani	407,143 x Rs. 100 = Rs. 40.70m	5,592,857
Devaka	67,857 x Rs. 100 = Rs. 6.78m	932,143
Public - fresh issue of shares		2,500,000
Issue to public by existing shareholder		2,000,000
(1,525,000 + 407,143 + 67,857)		
		22,500,000

(iii)

	Y_1	Y_2	Y_3
PBT	500	600	720
Tax @ (50% of 28%)	70	84	100

(iv)

Dividend declared	=	Rs. 100m
Number of shares	=	22.5m
Dividend per share	=	Rs. 4.44 per share
Devaka's dividend	=	932,143 x Rs. 4.44 x 90%
	=	Rs. 3,724,842

(b)   Both dividend policies and the size of a public float have an impact on share price.

"Dividend" could be in the form of bonus shares as well as in the form of cash dividends In the case of bonus shares, the number of shares will increase and accordingly the price of a share could vary theoretically based on the bonus issue. Cash dividends too have an impact on share price and a dividend of a share with low market price could have a gearing effect and high price volatility. Even for a good share, a low dividend payout could suppress the price.

One of the key mandates of a stock exchange to enable a wide ownership spread of listed equities and debts is the capital markets. Thus, most exchanges prescribe a threshold of a minimum public float that needs to be owned by the general public at the time of granting approvals for the listings. When a public float carries a small number of shares, the price volatility tends to be high compared to a public float with a large number of shares as in the former the available number of shares will be less i.e. supply demand mechanism could lead to high volatility of share price.

Answer No. 03

(a)

    (i) <u>Straight debt value</u>

This is equal to the present value of the future payments related to this debt but discounted at the rate of a non-convertible debt.

Future payments: annual end of year payment of Rs.12,063,450 over the next 3 years
Non-convertible loan rate: 12%

    Straight debt value = Rs.12,063,450 * Annuity PV factor at 12% for 3 years
                  = Rs.12,063,450 *2.4018
                  = **Rs. 28,973,994**
                  ~ **Rs. 28,974,000**

    i. <u>Implied price of a warrant</u>

Implied price of all warrants = Value of the loan with warrant – Straight loan value
                              = Rs. 30,000,000 - Rs. 28,974,000
                              = Rs. 1,026,000

Implied price of a warrant = Implied price of all warrants / Number of warrants
                              = **Rs.** 1, 026,000/500,000
                              = **Rs. 2.052**
                              ~ **Rs. 2.05**

    ii. <u>Theoretical value of a warrant</u>

Theoretical value of a warrant $= (P_0 – E)*N$
                            Where $P_0 =$ Current stock price
                                          $E =$ Current exercise price
                                          $N =$ Number of stocks
                      = (Rs. 28 - Rs. 30) * 2
                      = **- Rs 4.00 (Negative Rupees)**

 (b)   The price of the debt with warrants is too high. This is especially due to the fact that the implied price viz. Rs. 2.05 of the warrant is greater than the market price viz Rs. 1.00

Total price of the loan with warrant		Rs. 30,000,000
Straight value of loan	Rs. 28,974,000	
Market value of warrants	Rs. 500,000	(Rs.29,474,000)
Premium		**Rs. 526,000**

From the Ramal Company Ltd.'s point of view, the debt with warrants is good for them as they could sell the debt with warrants at a high premium.

We can take the cost of debt as 10% and the value found will almost be Rs. 30 million. For the straight debt, the bank will charge 12%.

Therefore, of the two borrowing options, Ramal Company Ltd should select the one with the warrants, as the cost of borrowing is less under that option.

(c)

Year	0	1	2	3	4	5	6
							(Rs. '000)
Lease payment		(12,000)	(12,000)	(12,000)			
Acquisition of assets				(2,200)			
Loan repayment		12,063	12,063	12,063			
Tax saving on lease payment (Note 1)		2,016	2,016	2,016			
Capital allowance on acquired asset at the end of 3rd year (Note 2)					733.333	733.333	733.333
Tax benefit forgone on depreciation allowance cost (Note 3)		(2,800)	(2,800)	(2,800)			
Tax benefit forgone on interest cost (Note 04)		(840)	(586)	(307)			
Net cash flow of lease		(1,561)	(1,307)	(3,228)	733	733	733
Discount rate 10% (1-t) = 10% (1-28%) = 7.2%		0.9328	0.8702	0.8117	0.7572	0.7064	0.6589
Discounted cash flow		(1,456)	(1,137)	(2,620)	555	518	483
NPV		**(3,657)**					

Note 01

Total lease value	=	Rs. 12m*3
	=	Rs. 36m

Allowable lease payment	=	Rs. 36m*1/5
	=	Rs. 7.2m

Therefore, tax saving on lease payment	=	Rs. 7.2m*28%
	=	Rs. 2,016,000

Note 02

Value of the asset acquired	=	Rs. 2,200,000
∴ capital allowance	=	Rs. 2,200,000*33.1/3 %
	=	Rs. 733,333

Note 03

Tax forgone on depreciation allowance	=	Rs. 30m/3*28%
	=	Rs. 2,800,000

(7)

Note 04
Tax benefit forgone on interest cost

Loan	Interest	Capital	Installment	Capital balance	Tax saving @ 28% on interest
30,000,000	3,000,000	9,063,450	12,063,450	20,936,550	**840,000**
20,936,550	2,083,655	9,969,795	12,063,450	10,966,755	**586,223**
10,966,755	1,096,695	10,966,755	12,063,450	-	**307,075**
	6,190,350	**30,000,000**	**36,190,350**		

Of the two debt options, debt with warrants was preferred.

Therefore, borrowing with warrants is recommended as the best option for financing the required industrial waste disposal system.

The management of the company should consider the impact of the warrant issue specially from the point of view of existing shareholders as each warrant gives a right to buy 2 ordinary shares at a predetermined price of Rs. 30 within next 10 years. Altogether, the number of shares could go up by 1,000,000. Therefore, the management of the company has to consider whether there will be any impact on the controlling interest of the company and the dilution of earnings if all warrants are exercised in the future. However, warrants are highly volatile financial instruments in general. In Sri Lanka, it has been observed that the share prices of companies that have issued warrants are also volatile mainly due to high market activity aimed at making short-term capital gains.

Answer No. 04

(a) (i) Total project cost = Rs. 1bn
     Debt   = Rs. 700m

Machine cost = € 3.125m — 80% supplier credit € 2.5m; 5 years @ 4.5%

US$ 2m loan; 6 years (including 1 year grace) @ LIBOR + 5%

Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7
Supplier repayment (€m) [Supplier credit €2.5m]	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)		
Interest (€m)	(0.113)	(0.09)	(0.068)	(0.045)	(0.023)		
Supplier repayment plus interest (€m)	(0.613)	(0.59)	(0.568)	(0.545)	(0.523)		
Exchange rate [€ = Rs. 176 in Y_0]	193.6	212.96	234.25	257.68	283.45		
Rupee requirement (Rs. m)	118.67	125.65	133.05	140.43	148.244		
Loan repayment ($m) [US$2m loan]		(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	
Interest ($m)	(0.110)	(0.110)	(0.088)	(0.066)	(0.044)	(0.022)	
Loan repayment plus interest ($m)	(0.110)	(0.510)	(0.488)	(0.466)	(0.444)	(0.422)	
Exchange rate [$ = Rs. 130 in Y_0]	143	157.3	173.03	190.33	209.37	230.30	
Rupee requirement (Rs. m)	15.73	80.22	84.44	88.69	92.96	97.18	
Loan repayment (Rs. m) [Rs. 700m loan]	-	(140)	(140)	(140)	(140)	(140)	
Interest @ 13% (Rs. m)	(91)	(91)	(72.8)	(54.6)	(36.4)	(18.2)	
Loan repayment plus interest (Rs. m)	(91)	(231)	(212.8)	(194.6)	(176.4)	(158.2)	

(ii) Total cash outflow on rupee loan = Rs. 1,064m

    Total cash outflow on US$ loan = Rs.   459.23m
    Total cash outflow on € borrowings = Rs.   666.05m
                                  = Rs. 1,125.28m

$$\text{Savings on rupee loan} = \text{Rs. } 1,125.28 - \text{Rs. } 1,064$$
$$= \text{Rs. } 61.28\text{m}$$

(b) There are a number of potential risks attributable to mini hydro projects. These include capital cost escalation, design risk, schedule delays, availability of water for power generation, hydrology (depending on geological and climatic factors), operational and maintenance cost escalation over the project period, inflation, tariff structure etc.

(c)

1	2	3	4	5	6	7
Scenario	Probability	Est NPV (Rs. '000)	Outcome (Rs. '000)	Deviation (Rs. '000)	Squared Deviation	Variance
(1)	(2)	(3)	(3) / (2)		(6)	(2) x (6)
Best Case	0.25	80,250	**321,000**	261,470	68,366,560,900	17,091,640,225
Base Case	0.5	10,080	**20,160**	-39,370	1,549,996,900	774,998,450
Worst Case	0.25	-30,800	**(123,200)**	-182,730	33,390,252,900	8,347,563,225
Expected Value (Rs. '000s)		59,530			Variance	26,214,201,900
					Std Dev.	161,908.0
					Coef of Var:	2.719

A financial decision typically involves risks, and investment decisions are made taking into account the estimated cost and estimated revenue in relation to the future scenario e.g. some costs could be unseen and/or underestimated. Similarly, income flows in the future could be affected by various underlying factors. Cash flow streams are more vulnerable to variation, in that when the planning period extends to a number of years the underlying factors will be subject to a high degree of variation. Therefore, consideration of costs and returns are important to minimize "uncertainty" or risks in investment decisions.

When a project is introduced , its impact on the business or existing portfolio of assets needs to be considered . This involves many factors, especially cash flows arising from the project. e.g. cash flows could be positively or negatively correlated. Expected return and correlation of project will have a risk impact on the portfolio. Another important factor is the covariance of a project which provides a way of measuring the strength of the correlation between variables i.e. to what extent the two variables change together. The Analysis of Covariance (generally known as ANCOVA) sits between the analysis of variance and regression analysis.

(d) Option 2: LKR 14.58/kWh during the entire 20 year period. This will give a steady income to a developer. However, a 20 year period is too long to forecast and the degree of uncertainty on cost factors will be high e.g. cost of fuel, operation and maintenance etc. tend to fluctuate widely (normally in an adverse manner) and the tariff of 14.58/kWh during the entire 20 year period offered by CEB may not be adequate to cover such cost variances.

Option 1: Years 1 – 8, a developer will be allowed to cushion the impact on one variable cost. Although the fixed charge of Rs. 5.16 in Years 9 – 15 is less than the fixed charge of Rs. 14.18 in Years 1-9, the tariff formula accommodates the variable component. From year 16+ onwards, the tariff will accommodate only variable components and this will enable a developer to cushion the impact of some cost escalations during that period. However there can be other variable components

With the given data, it is not possible to evaluate the two options. It requires the estimation and the impact of variable 1 and variable 2.

Answer No. 05

(a)   (i)   Working capital management as a financial strategy has its effects on the liquidity as well as the profitability of a company. The most important constituents in the determination of working capital management are inventories of a company, its accounts receivables and payables.

        A study of Table 1 indicates that the average gross working capital is Rs. 848,000. As per Table 2, stocks constitute 48% of the gross working capital and trade debtors represents 20.6% of the gross working capital, i.e. nearly 69% of the gross working capital is locked in stocks and debtors as against is the balance 31% which is more liquid. The company seems to be cash strained and obviously this could affect business potential and profitability (among other matters) of the company.

        According to Table 1, it is also noted that the company has been using long term funds significantly in working capital and this tends to increase cost of funds; the ratio of current assets to current liabilities has not been satisfactory. It is noted that the norm of 2:1 is not seen (however this norm could differ depending on the industry).

    (ii)   Tables 2 and 3 indicate the correlation between "working capital and profitability", and "working capital ratios and profitability" respectively. As per Table 2, average stocks as a percentage of gross working capital is 48% and the correlation coefficient is -0.8 i.e. stocks have a negative effect on profitability. All others, (except prepayments and advances) too have a negative correlation, but to a lesser degree i.e. an adverse effect on profitability. The negative effect of the current ratio (previously discussed) on profitability is substantiated by the correlation coefficient of -0.682 i.e. negative impact on the profitability of the business.

        Table 3 indicates that the Current Assets Turnover Ratio (0.72) has a high positive impact on profitability compared to the Current Assets to Total Assets Ratio (0.21) and the Working Capital Turnover Ratio (0.39). Other ratios have either a marginal or negative effect. Thus, the company's profitability could be improved by focusing more on the Current Asset Turnover Ratio followed by the Working Capital Turnover Ratio and the Current Assets to Total Assets Ratio.

(b)   The Asst. Accountant in his study has considered some basic parameters to assess the relationship between financial performance and working capital. Such a study needs further insights, in that, the mere correlation coefficients of working capital and profitability and, working capital ratios and profitability, will not provide a clear perspective with regard to working capital management. Thus, additional statistics such as ANOVA, P factors etc. will have to be recognized in addition to the fundamental aspects of the cash operation cycle. In forming an opinion, some data and findings of the Asst. Accountant need further review and scrutiny.

(c)   **Option 1 –** Through foreign exchange market:

2 month forward contract with the banker, to sell ¥ 30,000,000 proceeds from Japan

With the forward contract, the company can sell ¥ 30,000,000 at the bank's buying rate of ¥ 1.3755 per rupee.

Rupee proceeds under forward contract = ¥30,000,000 * 1.3755
                                                                         = Rs. 41,265,000

Rupee proceeds under future spot rate (bankers buying rate):

Current Spot Rate LKR/¥	=	1.4185
In two months time, the expected spot rate	=	1.4185 * 0 .94 = 1.3334

Rupee proceeds at the spot rate in 2 moths time =   ¥ 30,000,000 * 1.3334
                                                                        =   Rs. 40,002,000

Expected gain from forward contract	=	Rs. 41,265,000 - Rs. 40,002,000
	=	**Rs. 1,263,000**

Option 2 – Through money market hedging

The company can borrow ¥ 30,000,000 at the rate of 7.5% for two months and convert it into rupees at today's spot rate and then invest the rupee proceeds at the rate of 12% for two months. Finally, the company can settle the yen loan from the yen proceeds in two months' time.

Amount that could be borrowed in yen	=	¥30,000,000/(1.0125)
	=	¥ 29,629,630

Rupee proceeds from conversion	=	¥29,629,630 *(1.4185)
	=	Rs. 42,029,630

Investing the rupee proceeds in the money market =   Rs. 42,029,630 * (1.02)
                                                                        =   Rs. 42,870,223

Given interest rates should be converted to monthly rates

Gain from money market hedging	= Rs. 42,870,223 - Rs. 40,002,000
	= Rs. 2,868,223

The company should go for money market hedging as the gain from this option is greater than the gain arising from using a forward contract.

(d)   **Currency Risk**: is a potential gain or loss that could occur as a result of an exchange rate change. This can be further defined as a risk that arises from the change in price of one currency against another. Whenever a firm or individual has assets/liabilities and/or business operations across national borders, they face currency risk if their positions are not hedged.

Three different forms of currency risks a firm could face are: transaction risk, translation risk and economic risk.

Transaction Risk: This is the risk of making losses due to exchange rate changes in the course of international transactions. It occurs when prices are agreed in foreign currency terms in advance and the payment or the settlement is made at a later date and adverse changes in the exchange rate takes place between the two dates.

Translation Risk: This is the risk of exchange losses that could take place when the accounting figures of foreign operations (may be branches) are translated into the domestic currency in the preparation of financial reports (restating profit/loss and assets/liabilities of foreign branches at the exchange rate on the reporting date of financial reports).

Economic Risk: Change in the exchange rate will have an impact on most firms' competitiveness in numerous ways, to the extent their cash flows and their input/output are exposed to foreign currency fluctuations e.g. agro businesses will be subject to such economic risk due to their input (fertilizer and agro chemical) prices increasing as a result of exchange rate depreciations. On the other hand, if the rupee appreciates against foreign currencies, the tourism industry will suffer an economic risk due to decreased tourist arrivals.

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The answers have two fundamental purposes, namely:

1. to provide a detailed example of a suggested solution to an examination question; and

2. to assist students with their research into the subject and to further their understanding and appreciation of the subject.