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THE INSTITUTE OF
CHARTERED ACCOUNTANTS
OF SRI LANKA

SUGGESTED SOLUTIONS

05204 – Fundamentals of Management Accounting and Business Finance

Certificate in Accounting and Business II Examination

September 2013

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI LANKA

Answer No. 01

(a) Following Points need to be covered

- ◆ Acceptance of projects with IRR marginally above 6.6% will dilute the overall return on capital
- ◆ Raising too much of debt will increase the risk , marginal borrowing rate and the overall risk premium.
- ◆ If the company wants to maintain the present capital structure, any debt raised now will be balanced by equity in the future. This will bring back the cost of capital to 11.4%
- ◆ Even if the company is willing to continue with a modified capital structure there is a limit upto which debt can be raised and there after the company will be compelled to raise other sources of capital
- ◆ Considering the above , selection of projects should be based on overall cost of capital of 11.4%.

(5 marks)

(b)

(i)

Cost of equity

Using dividend growth model

$$D_1 = D_0 (1 + g)$$

$$D_1 = 5 * 1.1 = 5.5$$

$$g = 10\%$$

$$P = 110$$

$$\text{Cost of equity} = \frac{D_1}{P} + g = (5.50/110) + 10\% = 15.00\%$$

Cost of debt (bonds)

$$\text{Redemption value (Rs.)} = 1,000.00$$

$$\text{Interest per annum (Rs.)} = 122.40 \text{ (after tax)}$$

<u>Year</u>	<u>CF</u>	<u>Rs. Mn</u>	<u>DR @ 9%</u>	<u>PV (Rs.)</u>
0	Market price	1,070.00	1.000	(1,070.00)
1-4	Interest	122.40	3.240	396.58
4	Redemption value	1,000.00	0.708	708.00
				4.58

<u>Year</u>	<u>CF</u>	<u>Rs. Mn</u>	<u>DR @ 12%</u>	<u>PV (Rs.)</u>
0	Market price	1,070.00	1.000	(1,070.00)
1-4	Interest	122.40	3.037	371.73
4	Redemption value	1,000.00	0.636	636.00
				(62.27)

$$\text{After tax cost of debt} = 9\% + (12\% - 9\%) / (34.58 + 62.27) * 34.58 =$$

$$10.07\%$$

(6 marks)

(ii)

Weighted average cost of capital (Book value method)

	Value	Cost	WACC
Equity	900	15.00%	10.0%
Debt	450	10.07%	3.4%
WACC	1,350	WACC	13.4%

Alternative answer

Weighted average cost of capital (Market value method)

	Book value	Value	Cost	WACC
Equity	900	1,100	15.00%	10.4%
Debt	450	482	10.07%	3.1%
WACC		1,582	WACC	13.5%

(c)

(2 marks)

(i) **Net Asset Value Method**

Total net asset value (Rs.) = stated capital + retained earnings

$$= 450 + 250 = 700$$

$$\text{No. of shares} = 45 (9/20 \% \times 100\%)$$

$$\text{Value per share} = \text{Rs. 15.56 per share}$$

P/E ratio Method

$$\text{Industry P/E} = 16 \text{ times}$$

$$\text{Company P/E (Industry * 50\%)} = 8 \text{ times}$$

$$\text{EPS (Rs.)} = 2$$

$$\text{Value per share} = \text{Rs. 16 per share}$$

(4 marks)

- (ii) ♦ Assets and liabilities are accurately valued in the balance sheet
♦ The value of the company is reasonably reflected in its net assets.
♦ Going concern of the company is not affected
♦ All the liabilities are identified and accounted for.

(1 mark)

- (iii) ♦ It is a market base share valuation and therefore gives a realistic picture.
♦ Information is readily available and therefore can be calculated easily.
♦ It is based on earnings of the company

(2 marks)

Answer No. 02

- (a) Financial accounting mainly uses the historical and committed cost information in order to calculate the profit or loss incurred for a specific period of time. The costs used for management decision making will be all the costs which are affected from taking up that decision, so called incremental cost.

Examples

Sunk cost - is a part of financial accounting but not considered for decision making.

Opportunity cost - is a not considered in financial accounting but considered for decision making

Apportioned cost - is a part of financial accounting but not used for decision making

Future costs - Financial accounting considers only historical cost but for decision making future costs are considered. **(5 marks)**

(b)

	Jaffna (Rs)	Galle (Rs)	Note
Material A - available in stock (at original cost)	3,888,000	-	1
Material A - confirmed orders placed (at original cost)	5,472,000	-	2
Material A - orders not placed yet (at current cost)	12,000,000	-	3
Material B - available in stock (at original cost)		9,920,000	4
Material C - orders not placed yet (at current cost)		14,240,000	5
Labour - hired from local area	17,200,000	22,000,000	6
Project management	-	-	7
Accommodation and travel for project management	1,360,000	1,120,000	8
Machinery Rental Income	(1,200,000)	-	9
Penalty Clause	-	<u>5,600,000</u>	10
Total contract costs	38,720,000	52,880,000	
Contract Price	<u>57,600,000</u>	<u>70,400,000</u>	
Net Benefit	<u>18,880,000</u>	<u>17,520,000</u>	

Based on the above, Jaffna project is recommended

Note:

- 1 If material A is not used on the Jaffna contract it is more beneficial to use it as a substitute material thus avoiding future purchase of Rs 3.888Mn (4.32*.9)
- 2 It is assumed that it is not possible to cancel the purchase when there are confirmed orders already placed. Therefore the cost will occur whatever future alternative is selected. The material will be used as a substitute material if they are not used for the contract, and therefore the relevant cost is the purchase price of the substitute.

3. The material has not been ordered yet and the cost will only be incurred if the contract is undertaken. Therefore the additional cash flow of Rs 12 Mn will be incurred if the company undertake the Jaffna contract
4. Material B is in common use and the company should not dispose it. Using material B for Galle project means that these stock has to be replaced at a cost of Rs 9.92 Mn.(Rs 4.96 Mn*2)
5. Rs.14.24 Mn will be incurred an incremental cost if the Galle project is undertaken.
6. It is considered that the labour is an incremental cost and therefore relevant.
7. Project management cost is a sunk cost and therefore not relevant.
8. These costs will be incurred only if the contract is undertaken.
9. If the Jaffna project is undertaken the company will be able to hire out the surplus plant at a rental of Rs 1.2 Mn.
10. If the Galle Project is undertaken the company has to withdraw the Jaffna project and incur Rs 5.6 Mn as penalty.

Cost for the Headquarter will continue whichever option is selected and therefore they are not relevant costs.

It is assumed that there will be no differential cash flows relating to notional interest.

Depreciation is a sunk cost and irrelevant for decision making.

(Total - 15 Marks)

Answer No. 03

- (a) (i) Price elasticity of demand means the sensitivity of demand to the changes in price. Demand is elastic when there are substitutes for a product, or when customers do not value the product very highly. Therefore a small increase or decrease in price causes a larger decrease/increase in demand. Alternatively demand is inelastic when customers place a high value on the product, or when no close substitutes exist; the result is such that a small increase/decrease in price causes only a proportionately smaller decrease/increase in the quantity demanded

When pricing a product it requires to consider the price elasticity of the demand. If it is elastic a slight increase in price can decrease the demand in a proportionately higher quantity and vice versa. On the other hand, if a product is having an inelastic demand price increases will have proportionately lower impact to the demand.

(2 marks)

- (ii) A Price skimming strategy is an attempt to exploit those sections of the market that are relatively insensitive to price changes. This offers a safeguard against unexpected future increase in cost or large fall in demand after a novelty appeal has declined. This policy should not be adopted when number of close substitutes are already being marketed.

A Penetration pricing policy is based on the concept of charging low prices initially with the intention of gaining rapid acceptance of the product. Such a policy is appropriate when close substitutes are available or when it is easy to enter to the market.

(b) (i)

Total ROI	50,000 X 20%	<u>Rs ' 000</u>
Common head office expenses		10,000
Indirect factory overheads		8,600
Total Mark-up required		6,000
		24,600

Direct cost of 800 RECS	12,500 X 800	10,000
Direct cost of 1600 Hrs	1,600 X 4,000	6,400
		16,400

$$\text{Mark-up as a \% of direct cost} = \frac{24,600}{16,400} \times 100 = 150\%$$

$$\begin{aligned} \text{Price of one RECS} &= 12,500 + 12,500 \times 150\% \\ &= \mathbf{31,250} \end{aligned}$$

Cost of 1600 hrs		<u>Rs' 000</u>
Mark up @ 150%		6,400
		9,600
		16,000

$$\text{Chargeable Hrs} = 1600 \times 75\% = 1200$$

$$\text{Price per chargeable Hrs} = \frac{16,000,000}{1200}$$

$$\text{Price per chargeable Hrs} = \mathbf{13333.33}$$

(ii)

Annual forecast profit Statement

Sale of RECS	800 X 31,250	<u>Rs '000</u>
		25,000
Service Package	13,333 X 1200	16,000
		41,000
Manufacturing Cost of RECS	800 X 12,500	(10,000)
Direct of service Package	4,000 X 1600	(6,400)
		24,600
Fixed OH		(6,000)
HO Exp		(8,600)
Profit		10,000

Answer No. 04

(a) **Using the high and low method**

	Highest output	Lowest output
Output	300,000	200,000
Production overheads (Rs. '000)	13,500	12,000
Difference in output		100,000
Variable cost for difference		1,500,000
Per unit variable overheads (Rs.)		15.00
With the increase of 10% (Rs.)		16.50
Total fixed overheads (Rs.)	9,000	9,000
Increased overheads (10%)	9,900	9,900
Therefore,		

$Y = 9,900,000 + 16.5X$

Where;

Y = Total cost

X = No. of bottles manufactured

(b) **250,000 output level**

Fixed overheads	=	9,900,000
Variable overheads (16.5*250,000)	=	4,125,000
Total production overheads	=	14,025,000

(c) **Budgeted output level = 250,000 bottles**

Total hours (3Mn/240)	hours	12,500
Per bottle labour time (12,500/250,000*60)	Minutes	3.00
Variable overheads per hour (16.50/3*60)		330.00
Budgeted fixed overheads (Rs.)		9,900,000
Per hour fixed overheads absorption (Rs.)		792.00

(d)

(i)	Variable Overheads exp. Variance = (Std OH for Act hours - Act VOH)		
	((330*12,100) - 3,581,600) =	411,400	Fav
(ii)	VOH efficiency variance = (Std hour for Act output - Actual hours) Std rate		
	((3*240,000)/60 - 12,100) 330 =	(33,000)	Adv
(iii)	FOH expenditure variance = Btd OH - Actual OH.		
	(9,900,000 - 8,900,000)	1,000,000	Fav
(iv)	FOH volume variance = (actual production - btd production) std FOH per unit		
	(240,000 - 250,000)*792/60*3 =	(396,000)	Adv
(iv)	FOH volume capacity variance = (actual hours- btd hours)std rate per hour		
	(12,100 - 12,500)*792 =	(316,800)	Adv
(v)	FOH volume efficiency variance = (std hours- act hours)std rate per hour		
	(12,000 - 12,100)*792 =	(79,200)	Adv

Answer No. 05

(a) **Production Budget**

	<u>October</u>	<u>November</u>	<u>December</u>	<u>January</u>
Sales	10,000	12,000	9,000	11,000
Opening FG	(2,000)	(2,400)	(1,800)	
Closing FG	2,400	1,800	2,200	
Production	10,400	11,400	9,400	

(2 marks)

(b) **Material Budget - Base oil in Litres**

	<u>October</u>	<u>November</u>	<u>December</u>
Base Oil (Lts)	156,000	171,000	141,000
Opening stock	(31,200)	(34,200)	
Closing stock	34,200	28,200	
Purchase	159,000	165,000	

Please note: Since the question is silent about the opening stock of Base oil, students may have taken it as either zero or 20% of the requirement which is 31,200Lt. Either quantity can be awarded marks.

Material Budget - Chemical A in Kgs

	<u>October</u>	<u>November</u>	<u>December</u>
Chemical A (Kgs)	52,000	57,000	47,000
Opening stock	(10,400)	(11,400)	
Closing stock	11,400	9,400	
Purchase	53,000	55,000	

(4 marks)

(c) **Forecasted Statement of Income**

		October (Rs. '000)
Sales (for 10,000 cans)		35,000
<u>Cost of sales for 10,000 cans</u>		
Material - Base oil	(15,000)	
Chemical A	(10,000)	
Labour (20/60*300*10,000)	(1,000)	
Variable Overheads	(500)	
Fixed factory overheads	(1,500)	(28,000)
Gross profit		7,000
Over-absorption of factory overheads ((20/60)*450*400 cans)/1000		60
Less:		
Administration and selling overheads		(2,000)
Net profit from continuing operations		5,060

(4 marks)

(d) Cash Budget	October
<u>Receipts</u>	Rs. '000
Debtors	25,200
Cash sales (35,000*20%)	7,000
Total receipts	<u>32,200</u>
<u>Payments</u>	
Raw materials - Base oil	15,900
Raw materials - Chemical A	10,600
Labour (10,400*20/60*300)	1,040
variable overheads	520
Factory overheads (20/60*450*10,000) - 500,000	1,000
Administration and selling expenses	<u>1,700</u>
Total payment	<u>30,760</u>
Net cash flow	1,440
Opening cash balance	<u>200</u>
Closing cash balance	<u>1,640</u>

Answer No. 06

- (a) Product costs are those costs that are identified with goods purchased or produced for resale. The products cost are attached to the cost of the product and included in the inventory valuation.

Example - Purchase cost, direct labour, manufacturing overheads, variable manufacturing cost etc.

Period costs are those costs that are not included in the inventory valuation and as a result are treated as expenses in the period in which they are incurred.

Example - management salary, administration charges etc.

- (b) An opportunity cost is a cost that measures the opportunity that is lost or sacrificed when the choice of one course of action requires that an alternative course of action be given up.

Opportunity cost is a relevant cost and should be considered when evaluating mutually exclusive projects/proposals.

Example - If a material stock, purchased at Rs. 500,000/-, could only be sold as scraps at present for Rs. 100,000/-. If the management choose to reprocess it and use for some other purpose the opportunity cost would be the net realisable value of Rs. 100,000/-.

(c)	Computation of labour rate	
	Basic pay + Allowances	3500X 12
		42,000.00
	Fringe Benefits	1000X 12
		<u>12,000.00</u>
		54,000.00
	Cost per day $54000/(300) = 180.00$	
	Less : Sick Leave = $180 \times 20 \times 1/2$	
		<u>(1,800.00)</u>
		52,200.00
	No of Working Hrs $(300-(30+20)) \times 8$	
		2,000
	Std Labour Hrs Rate	$52,200/2000$
		<u>26.10</u>
	If There is no sick leave	
	Std Labour Rate	$\frac{54,000}{(300-30) \times 8}$
		<u>25</u>

(d)	Cost Sheet	4000 Units	
		Total	Per Unit
		Rs	Rs
	Fabric Consumed	80,000.00	20.00
	Direct Wages	50,000.00	12.50
	Production Over Head	<u>32,000.00</u>	<u>8.00</u>
	Factory Cost	162,000.00	40.50
	Administrative OH 10%	<u>3,200.00</u>	<u>0.80</u>
		165,200.00	41.30
	Closing Stock (41.3×400)	<u>(16,520.00)</u>	
		148,680.00	
	Selling OH @ 1.50	<u>5,400.00</u>	<u>1.50</u>
		154,080.00	42.80
	Profit	25,920.00	7.20
	Sales 3600×50	180,000.00	50.00

Answer No. 07

- (a) Process costing is used when producing an identical output where it is unnecessary to assign individual units to manufacture the output since it uses same amount of material, labour and other costs. This involves in chemical processing, oil refining etc.

But Job costing is required when the each unit or batch of the output is unique. This require assigning cost relevant to each job separately. For example, job costing involves when a vehicle repairer undertakes repairs where each repair is unique and needs to be separately costed.

- (b)

(i)		Units
	Opening balance	200.00
	From Process I	<u>10,000.00</u>
		10,200.00
	Normal loss (5%)	(500.00)
	Abnormal loss	(100.00)
	Less closing balance	<u>(300.00)</u>
	Finished goods	<u>9,300.00</u>
(ii)	Total transferred	9,300.00
	Opening WIP	(200.00)
	Started and completed	<u>9,100.00</u>

- (iii) Computation of Equivalent Units

	Qty (Units)	Process I output	Additional Material	Labour	Overheads
Opening WIP	200	-	-	80	80
Started and completed during the month (9,300-200)	9,100	9,100	9,100	9,100	9,100
Normal Loss	500	-	-	-	-
Abnormal Loss	100	100	100	100	100
Closing Stock	300	300	-	150	150
Total Equivalent units	10,200	9,500	9,200	9,430	9,430
Cost incurred during the month		47,500,000	11,540,000	4,715,000	2,829,000
Less: Scrap sales of normal loss (500*1000)		(500,000)	-	-	-
Net Cost		47,000,000	11,540,000	4,715,000	2,829,000
Cost per Equivalent unit for the month		4,947	1,254	500	300

(iv) Normal Loss Account

	Qty	Value Rs.'000		Qty	Value Rs.'000
Process II Account	500	500.00	Cash/Debtors	500	500.00
Total		500.00	Total		500.00

Abnormal Loss Account

	Qty	Value Rs.'000		Qty	Value Rs.'000
Process II Account	100	700.00	Cash/Debtors	100	100.00
			Process P&L		600.00
Total		700.00	Total		700.00

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