Association of Accounting Technicians of Sri Lanka

January 2016 Examination - AA3 Level

Questions and Suggested Answers
Subject No : 32

MANAGEMENT ACCOUNTING AND FINANCE (MAF)

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A publication of the Education and Training Division

THE ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA

EDUCATION AND TRAINING DIVISION

AA3 Examination - January 2016
(32) Management Accounting and Finance

SUGGESTED ANSWERS

SECTION – A

All four (04) questions of this section to be answered.
(Total 20 marks)

Suggested Answers to Question One:

a)

i. EPF
ii. ETF
iii. Government Pension
iv. Insurance Schemes with Pension Plans
v. Bank Accounts with Pension Plans
vi. Private Pension and Provident Funds
vii. One period and amount of required pension

b)

i) Fees and Charges of the plan – Your aim is to receive maximum and timely payments during the golden years of your life. Therefore you have to decide the right amount and the mode of payment.

ii) Features and return of the plan – You need to weigh out the options available and decide on the one that is most suitable to your needs and life style.

iii) Flexibility of the plan – Where the expectation is different form the actual happening of the plan, the plan should be flexible enough to suite your demand.

iv) Special need / requirements of the employee such as medical need, children obligation etc..

Suggested Answers to Question Two:

a) i) There is a rapid increase in the turnover.

ii) There is a rapid increase in the volume of current assets. Increase in stock and debtors is greater than increase in sales.

iii) Increase in financial cost and small addition to retained profits.

iv) The payment period of creditors likely to be lengthen.

v) Bank overdraft limit may be exceeded. (Short increase in term borrowings)

vi) Current ratio and quick ratio falls sharply.

vii) Deficit of liquid assets. Increase in short term borrowings.

b)

i) Introducing inventory management system

Introducing inventory management system along with the inventory controlling models like EOQ and EBQ will drastically minimize the cost.

ii) Implementing stockless production models

Implementing JIT (Just In Time) procurement system will reduce the stock holding cost and any stocking wastage.

iii) Implementing Vendor Management models

Buyer of the product provides certain information to a supplier of that product and the supplier takes the fully responsibility of maintaining an agreed inventory of material.

iv) ABC Analysis / Selective inventory control.

Suggested Answers to Question Three:

a) Since sales ratio of A and B is 1:2

$$\text{Combined profit volume ratio} = \frac{\text{Combined Contribution}}{\text{Combined Sales Value}} \times 100$$

$$\text{Combined profit volume ratio} = \frac{(120A)+(60x2B)}{(200A)+(150X2B)} \times 100$$

$$= \frac{120+120}{200+300} \times 100$$

$$= \frac{240}{500} \times 100$$

$$= \underline{\underline{48.00\%}}$$

Note – Computation of unit contribution

	Product A	**Product B**
	Rs.	**Rs.**
Selling Price	200.00	150.00
Variable Cost	(80.00)	(90.00)
Contribution	120.00	60.00

b)

Combined profit volume ratio = $\frac{\text{Combined Contribution}}{\text{Combined Sales Value}} \times 100$

Qty to achieve target profit = $\frac{\text{Total Fixed Cost + Target Profit}}{\text{Combined Contribution}} \times 100$

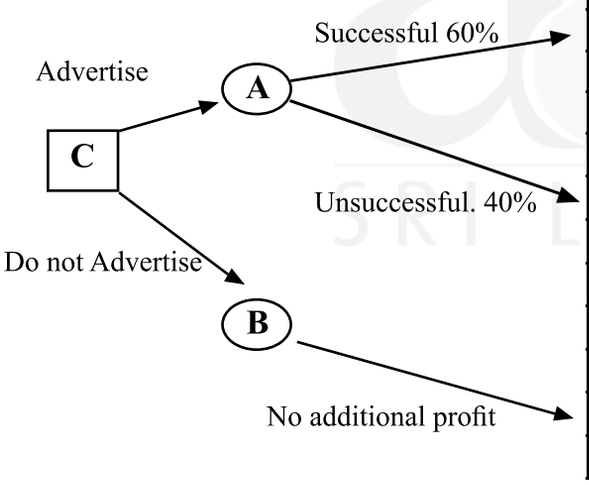
= $\frac{\text{Rs. 2,300,000+Rs. 1,000,000}}{240}$

= 13,750.00

Product A = 13750*1=13,750 Units

Product B = 13750*2=27,500 Units

Suggested Answers to Question Four:



Additional sale	Contribution	Total contribution Rs 000
(500,000*10%)		
50,000	400	20,000
(500,000*1%)		
5,000	400	2,000
(500,000*0%)		
-	400	-

Expected value at point A

Outcome	Contribution	Probability	EV Rs 000
Successful	20,000	60%	12,000
Unsuccessful	2,000	40%	800
			12,800
Advertising cost			(10,000)
Profit			2,800

The advertising campaign should be undertaken as generates additional contribution of Rs. 2,800,000.

SECTION –B

All three (03) euqstions of this section to be answered.
(Total 30 marks)

Suggested Answers to Question Five:

a) i. Definite planning - Budgets are based on the well-defined plans. Budgets enable the different heads to know what is expected of them.

ii. Enhance efficiency - Budgeting is an effective way of controlling costs and eliminating wastage. It promotes economy and efficiency. Facilitate effective co-ordination of activities of the various departments and functions by setting their limits and goals.

iii. Proper communication and coordination - Budgets are constructed taking into consideration feedback information supplied by lower levels of management. Every department frames its own budget in consultation with the departmental staff. Thus, it makes two-way communication in the organization. And it promotes coordination between different departments or divisions of the enterprise.

iv. Delegation of authority - Budgeting encourages delegation of authority. It fixes the limits within which delegated authority can be used.

v. Performance evaluation Budgets act as a strong tool to measure the performance of authorized delegates and their team.

vi. Motivation and rewarding - Budgets act as a strong incentive to employees by fixing targets of performance.

vii. Control - Budgets make management by exception possible. The comparison of actual and budgeted performance will show up weak spots where management attention is needed the most. Thus, budgeting is an important technique of control.

viii. Helps to adopt the principle of standard costing.

b) **Operating Statement for the year 2015.**

Rs.000	Working 1	Original Budget	Working 2	Flexible Budget	Working 3	Actual	Variance
Volume		50,000		40,000		40,000	-
Sales	500*50,000	25,000	25,000/50,000 * 40,000	20,000	550*40,000	22,000	2,000F
Variable cost							
Material cost	200*50,000	(10,000)	10,000/50,000 * 40,000	(8,000)	300*40,000	(12,000)	(4,000A)
Labour cost	100*50,000	(5,000)	5,000/50,000 * 40,000	(4,000)	100*40,000	(4,000)	-
Contribution		10,000		8,000		6,000	(2,000A)
Fixed cost	100*50,000	(5,000)		(5,000)	5,000-1,200	(3,800)	1200F
Profit		5,000		3,000		2,200	(800A)

F - Favourable ***A - Adverse***

Suggested Answers to Question Six:

a)

i. Cost of ordinary shares

$$K_e = \frac{D_0 (1 + g)}{P_0} + g$$

$$K_e = \frac{80 (1 + 5\%)}{750} + 5\%$$

$$K_e = \underline{\underline{16.20\%}}$$

ii. Cost of irredeemable preference shares

$$K_p = \frac{D_0}{P_0}$$

$$K_p = \frac{28}{280}$$

$$K_p = \underline{\underline{10.00\%}}$$

iii. Cost of irredeemable debt

$$K_d = \frac{i (1 - t)}{P_0}$$

$$K_d = \frac{15(1 - 28\%)}{100}$$

$$K_d = \underline{\underline{10.80\%}}$$

iv) **Weighted Average Cost of Capital (WACC)**

(RS. '000)

Source	Market Value Rs.	COC %	COC Rs.	WACC
Ordinary shares	750,000.00	16.20%	121,500.00	12.15%
Retained Earnings	-	-	-	0.0%
Preference Shares	140,000.00	10.00%	14,000.00	1.40%
Debt	110,000	10.80%	11,880.00	1.19%
	1,000,000.00		147,380.00	
WACC =	147,380.00 / 1,000,000.00	x 100	= 14.738%	14.74%

b) i. The capital structure of the entity will remain unchanged.

ii. Any new investment will have a similar risk profile to the existing investments.

iii. Capital market condition and tax status remained unchanged.

Suggested Answers to Question Seven:

a)

i) **Pay-back period**

Year	0	1	2	3	4	5	6
Revenue		-	55,000,000	70,000,000	80,000,000	80,000,000	80,000,000
Additional Maintenance expenses and overheads		-	(10,000,000)	(15,000,000)	(18,000,000)	(21,600,000)	(25,920,000)
Investment	(200,000,000)						
Scrap value		25,000,000					36,000,000
Net Cash Flows	**(200,000,000)**	**25,000,000**	**45,000,000**	**55,000,000**	**62,000,000**	**58,400,000**	**90,080,000**
Payback							
Cumulative Cash Flows	(200,000,000)	(175,000,000)	(130,000,000)	(75,000,000)	(13,000,000)	45,400,000	135,480,000

Pay-back period = 4 years + $\frac{13,000,000}{13,000,000 + 45,400,000}$ x 12 months

= 4 years and 2.7 Months or 4.225 years

ii) **Net Present Value**

Year	0	1	2	3	4	5	6
Net Cash Flows	(200,000,000)	25,000,000	45,000,000	55,000,000	62,000,000	58,400,000	90,080,000
Discount FActor at 14%	1.0000	0.8772	.7695	0.6750	0.5921	0.5194	0.4556
Discounted Cash Flow	**(200,000,000)**	**21,929,825**	**34,626,039**	**37,123,433**	**36,708,977**	**30,331,130**	**41,039,236**
Net Present Value	**1,758,640**						

ii) **Profitability Index**

Profitability Index = $\frac{(NPV + Initial\ Investment)}{Initial\ Investment}$

= $\frac{(1,758,640 + 200,000,000)}{200,000,000}$

= 1.01

b) **Holdings PLC** should go ahead with this proposal since it has a positive NPV and profitability index is over 1.

SECTION –C

Any two (02) out of three questions of this section to be answered.
(Total 50 marks)

Suggested Answers to Question Eight:

(a)

Material	Qty %	Qty Purchased	Price	Value Rs.
X	40%	36,000	175	6,300,000
	60%	54,000	180	9,720,000
		90,000		16,020,000
Y	100%	24,000	360	8,640,000
		114,000		24,660,000
Qty produced				10,000
Actual Cost per 10L Drum				**2,466**

(b)

Material	Per Drum	Rs.
X	8.5L @ (160*1.15)	1,564
Y	2.5L @ (320*1.15)	920
Revised standard cost per drum		2,484

c)

i)

Material Price Variance = Act. Purchase * (R. Std. Price - Actual Price)

X = 90,000 * ((160*1.15) - (16,020,000/90,000))

= 90,000 * (184 - 178)

= 540,000 F

Y = 24,000 * ((320*1.15) - (8,640,000/24,000))

= 24,000 * (368 - 360)

= 192,000 F

Total material price variance = 732,000 F

ii)

Material Usage Variance	=	R. Std Price (Std. Usage - Actual Usage)
X	=	184 ((8.5L*10,000) - 90,000L)
	=	184 (85,000L - 90,000L)
	=	920,000 A
Y	=	368 ((2.5L*10,000) - 24,000L)
	=	368 (25,000L - 24,000L)
	=	368,000 F
Total material usage variance	=	552,000 A

d)

Material cost based on revised standard (2,484 * 10,000)	24,840,000	
Material price variance (as per (c) above)	(732,000)	Fav.
Material usage variance (as per (c) above)	552,000	Adv.
Actual material cost (2,466 * 10,000)	**24,660,000**	

e)

Material Mix Variance = Standard Price [(Total actual material usage x Standard mix) - (Total actual material usage x Actual mix)]

x	=	184 (114,000 x 8.5/11) - (114,000 x 90/114)
	=	184 (88,091 - 90,000)
	=	**(351,256) Adverse**
y	=	368 (114,000 x 2.5/11) - (114,000 x 24/114)
	=	368 (25,909 - 24,000)
	=	**702,512 Favourable**

Material Mix Variance (Total) = **351,256 Favourable**

Material Yield Variance= Standard Price [(Total standard material usage x Standard mix) - (Total actual material usage x Standard mix)]

x = 184 (110,000 x 8.5/11) - (114,000 x 8.5/11)

= 184 (85,000 - 88,091)

= **(568,744) Adverse**

y = 368 (110,000 x 2.5/11) - (114,000 x 2.5/11)

= 368 (25,000 - 25,909)

= **(334,545) Adverse**

Material Yield Variance (Total) = **(903,289) Adverse**

(f) Causes for adverse material usage variance

1. Use of defective or inferior quality materials
2. Excessive material usage or theft of material
3. Machinery breakdowns or poor machine maintenance
4. Lack of employee motivation
5. Less supervision

(g) After standards are set for a period, unexpected incidents that are out of control of the responsible officers can occur. A good example is 15% increase in prices due to exchange rate increase. Therefore it is important to separate this uncontrollable part from the controllable part of the variance since uncontrollable part is not a responsibility of the officers of the organization. As such the uncontrollable part is the planning variance and the controllable part is the operating variance.

Further, the performance of the officers of the organization therefore should be measured based on operating variances.

Suggested Answers to Question Nine:

(A) (a)

	P	Q	R	Total
Machine time minutes	10	5	20	
Maximum demand	7,000	5,000	10,000	
Machine time required minutes	70,000	25,000	200,000	295,000
Available machine time (5,000 * 60) in minutes				**300,000**

Therefore there is suffcient machine time to produce the maximum demand.

	P	Q	R	
Labour time minutes	[(40/120) x 60] = 20	[(30/120) x 60] = 15	[(80/120) x 60] = 40	
Maximum demand	7,000	5,000	10,000	
Labour time required minutes	140,000	75,000	400,000	615,000
Available labour time (10,000 * 60) in minutes				600,000

Therefore limiting factor / scare resource is labour time.

(b)

	P	Q	R
Selling price	150	145	280
Total variable cost	(110)	(85)	(220)
Controbution	**40**	**60**	**60**
Labour time per unit (minutes)	20	15	40
Contribution per limiting factor	2	4	1.5
Ranking	**2**	**1**	**3**

(c) (i)

Optimal Product Mix	Optimal Qty.	
Product Q	5,000	(5,000 x 1/4) = 1,250
Product P	7,000	(7,000 x 1/3) = 2,334
Product R	9,625	(9,624 x 2/3) = 6,416
		10,000

(ii) **Expected Contribution**

Product Q	=	5,000 x 60	=	300,000
Product P	=	7,000 x 40	=	280,000
Product R	=	9,624 x 60	=	577,440
				1,157,440

(d) **The unfulfilled demand exist only in product R**

		Rs.
Contribution per labour minute	=	150
Existing rate per labour minute (120/60)	=	2.00
Maximum rate per labour minute	=	3.50
Maximum rate per labour hour (Rs.)	**=**	**210**

(B) (a)

Kottawa FActory

Computation of available cost / cost saving

Description	Rs.
Total production cost per unit	2,750.00
(-) Fixed cost per unit	
(3,000,000 + 300,000) / 10,000	330.00
Variable cost per unit	2,420.00
External market price	2,500.00
Additional cost on purchasing	(80.00)
Total additional cost per month	(800.00)
Fixed cost saving	
on fixed cost without rent	1,200.00
rental	300.00
Total cost saving per month	1,500.00
Net cost saving	700.00

KPL should purchase from external market as it saves Rs. 700,000/- per month.

(b)

Description	Rs.
Variable cost per unit	2,420.00
External market price	2,500.00
Additional cost on purchasing per unit	(80.00)
Total additional cost per month for 20,000 units	**(1,600,000.00)**
Fixed cost saving	
on fixed cost without rent	1,200,000.00
Rental	300,000.00
Total cost saving per month	**1,500,000.00**
Net additional cost	(100,000.00)

If the monthly requirement is 20,000/- units, the net additional cost is Rs. 100,000/- per month. Therefore it is recommended to continue production in rented out building.

Notice :

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These should be understood as Suggested Answers to question set at AAT Examinations and should not be construed as the "Only" answers, or, for that matter even as "Model Answers".

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