



**Association of Accounting Technicians of Sri Lanka**

**July 2018 Examination - AA3 Level**

**Questions and Suggested Answers  
(AA 32)**

**MANAGEMENT ACCOUNTING AND FINANCE  
(MAF)**

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**THE ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA**  
EDUCATION AND TRAINING DIVISION

**AA3 Examination - July 2018**  
**(AA 32) Management Accounting and Finance**

**SUGGESTED ANSWERS**

**SECTION – A**

Four (04) compulsory questions.  
(Total 20 marks)

*Suggested Answers to Question One:*

a) **Advantages of financial planning**

- It increases the control of the financial affairs by avoiding bankruptcy, excessive debt and dependence on others for economic security.
- It increases effectiveness of obtaining, using and protecting the financial resources over the life time.
- It improves personal relationship resulting from well planned and communicated financial decisions.
- Provides a sense of freedom from financial worries by being able to plan for the future and achieving economic goals.

*(02 marks)*

b) **Basic rules of financial planning**

- Plan for the future
- Set long, mid and short term financial goals
- Know your financial situation
- Develop a realistic budget
- Don't allow expenses to increase
- Pay the bills on time
- Distinguish the difference between needs and wants
- Use credit wisely
- Keep a record of daily expenses
- Save for the future

*(03 marks)*

*(Total 05 marks)*

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### ***Suggested Answers to Question Two:***

- Effectiveness** – This is the relationship between an organization's output and its objectives. This means ensuring that the outputs of a service have the desired impact.
- Efficiency** – This is the relationship between the input and the output received. Efficiency can be either maximising the output for a particular input or reducing the input for a given output.
- Economy** – This is attaining the appropriate quantity and quality of inputs at lowest cost. Economy is concerned with the cost of input and it is achieved by obtaining those input at the lowest acceptable cost.

**(05 marks)**

### ***Suggested Answers to Question Three:***

- a)      Receivable Days            =       $\frac{\text{Average Receivables} \times 360 \text{ days}}{\text{Revenue}}$
- For 31st March 2017       =       $[(29,200,000 + 45,600,000) / 2] / 340,000,000 \times 360 \text{ days}$
- =      **39 days**
- For 31st March 2018       =       $[(45,600,000 + 60,800,000) / 2] / 332,500,000 \times 360 \text{ days}$
- =      **57 days**

**(03 marks)**

- b)      As per the calculation above, the residence period of trade receivable has increased marking an inefficiency in the trade receivable management. Following strategies are suggested for the better management.
1.      Early Settlement Discounts - a discount can be offered to debtors for settle prior to the expiry of the credit period.
  2.      Factoring - The receivables can be sold to a third party at a discount for that to collect the dues.
  3.      Invoice Discounting - Borrowing short term on the invoices.
  4.      Credit Insurance - Obtaining an insurance policy to cover against bad debts.

**(02 marks)**

**(Total 05 marks)**

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***Suggested Answers to Question Four:***

**Skilled Labour Cost**

Skilled labour under  
Minimum pay = (20,000 - 9,500) hours  
= 10,500 hours  
(Not relevant as minimum pay is a sunk cost)

Additional skilled  
Labour hours = (14,500 - 10,500) hours  
= 4,000

Overtime payment = Additional hours x (Rs. 800 x 1.5)  
= 4,000 x 1,200  
= **4,800,000**

**Unskilled Labour Cost**

Guaranteed pay idle hours = 68,000 hours  
Additional labour requirement = 0 (as idle hours > order requirement)  
Incentive pay = 41,600 hours x Rs. 25  
= **1,040,000**

**Total** = **5,840,000**

*(05 marks)*

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***End of Section A***

Three (03) compulsory questions.  
(Total 30 marks)

**Suggested Answers to Question Five:**

a) **Payoff Table - Contribution**

(Rs. '000)

		States of Nature (Demand for)		
		LOW 8,000 boxes	MID 17,500 boxes	HIGH 26,000 boxes
Decisions	1 Shift - 10,000 boxes	1,710	2,600	2,600
	2 Shift - 20,000 boxes	(140)	4,087.5	5,200
	3 Shift - 30,000 boxes	(1,990)	2,237.50	6,020

**Workings:**

**Demand 8,000**

10,000	$8,000 \times (450 - 190) + 2,000 \times 5 - 2,000 \times 190$ $= 2,080 + 10 - 380$ $= \underline{1,710}$
20,000	$8,000 \times (260) + 12,000 \times 5 - 12,000 \times 190$ $= 2,080 + 60 - 2,280$ $= \underline{(140)}$
30,000	$8,000 \times 260 + 22,000 \times 5 - 22,000 \times 190$ $= 2,080 + 110 - 4,180$ $= \underline{(1,990)}$

**Demand 17,500**

10,000	$10,000 \times 260 = \underline{2,600}$
20,000	$(17,500 \times 260) + (2,500 \times 5) - 2,500 \times 190$ $= 4,550 + 12.5 - 475$ $= \underline{4,087.50}$
30,000	$(17,500 \times 260) + (12,500 \times 5) - 12,500 \times 190$ $= 4,550 + 62.5 - 2,375$ $= \underline{2,237.5}$

**Demand 26,000**

10,000	$10,000 \times 260 = \underline{2,600}$
20,000	$20,000 \times 260 = \underline{5,200}$
30,000	$(26,000 \times 260) + (4,000 \times 5) - 4,000 \times 190$ $= 6,760 + 20 - 760$ $= \underline{6,020}$

(07 marks)

b)

**Maximax** – Produce 30,000 Boxes as to make a contribution of Rs. 6,020,000.

		Demand		
		Low (8,000)	Mid (17,500)	High (26,000)
Production Qty.	10,000	1,710	2,600	2,600
	20,000	(140)	4,088	5,200
	30,000	(1,990)	2,238	6,020

Maximax

**Maximin** - Produce 10,000 Boxes as to make a contribution of Rs. 1,710,000.

		Demand		
		Low (8,000)	Mid (17,500)	High (26,000)
Production Qty.	10,000	1,710	2,600	2,600
	20,000	(140)	4,088	5,200
	30,000	(1,990)	2,238	6,020

Maximin

(03 marks)  
(Total 10 marks)

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***Suggested Answers to Question Six:***

	<b>Rs.</b>
<b>If Outsourced:</b>	
Cost of Outsourcing (145,000 units x Rs. 950)	137,750,000
<b>Additional Costs</b>	
Compensation payments	15,000,000
Cost of inspections (Rs. 450,000 x 12)	5,400,000
<b>Total Cost</b>	<b>158,150,000</b>
<b>Cost Savings</b>	
Material (145,000 units x Rs. 150)	(21,750,000)
Skilled Labour (145,000 units x Rs. 300)	-
Unskilled Labour (145,000 units x Rs. 400)	(58,000,000)
Variable Production Cost (145,000 units x Rs. 225)	(32,625,000)
Specific Fixed Costs (16,250,000 x 60%)	(9,750,000)
Allocated Fixed Costs	-
Scrap Value of Materials	(1,186,000)
<b>Total Savings</b>	<b>(123,311,000)</b>
<b>Incremental Cost / (Savings) from Outsourcing</b>	<b><u>34,839,000</u></b>

**Recommendation:**

**Component x** should not be purchased from outside as there is no savings to the company.

*(10 marks)*

***Suggested Answers to Question Seven:***

	<b>Budget</b>	<b>60,000 Units Original Budget</b>	<b>58,400 Units Actual</b>	<b>Difference</b>
Revenue	Rs. 2,500 x 60,000 units	150,000,000	147,168,000 (2,520 x 58,400)	(2,832,000)
Direct Material A	Rs. 1,100 x 60,000 units	(66,000,000)	(66,860,000)	(860,000)
Direct Material B	Rs. 600 x 60,000 units	(36,000,000)	(37,825,000)	(1,825,000)
Direct Labour	Rs. 150 x 60,000 units	(9,000,000)	(8,765,200)	234,800
Variable Production Overheads	Rs. 80 x 60,000 units	(4,800,000)	4,980,000	(180,000)
Variable Selling Commission	60,000 units x Rs. 2,500 x 3%	(4,500,000)	(4,360,000)	140,000
<b>Contribution</b>		<b>29,700,000</b>	<b>24,377,800</b>	<b>(5,322,200)</b>
Fixed Overheads		(18,500,000)	(19,050,000)	(550,000)
<b>Profit</b>		<b>11,200,000</b>	<b>5,327,800</b>	<b>(5,872,200)</b>

**Alternative Answer**

	<b>Flexible Budget</b>	<b>Flexible Budget</b>	<b>58,400 Units Actual</b>	<b>Difference</b>
Revenue	Rs. 2,500 x 58,400 units	146,000,000	147,168,000 (2,520 x 58,400)	1,168,000
Direct Material A	Rs. 1,100 x 58,400 units	(64,240,000)	(66,860,000)	(2,620,000)
Direct Material B	Rs. 600 x 58,400 units	(35,040,000)	(37,825,000)	(2,785,000)
Direct Labour	Rs. 150 x 58,400 units	(8,760,000)	(8,765,200)	(5,200)
Variable Production Overheads	Rs. 80 x 58,400 units	(4,672,000)	(4,980,000)	(308,000)
Variable Selling Commission	146,000,000 x 3%	(4,380,000)	(4,360,000)	20,000
<b>Contribution</b>		<b>28,908,000</b>	<b>24,377,800</b>	<b>(4,530,200)</b>
Fixed Overheads		(18,500,000)	(19,050,000)	(550,000)
<b>Profit</b>		<b>10,408,000</b>	<b>5,327,800</b>	<b>(5,080,200)</b>

(10 marks)

***End of Section B***



Two (02) compulsory questions.  
(Total 50 marks)

*Suggested Answers to Question Eight:*

A)

$$a) K_e = \frac{d_0 (1+g)}{P_0} + g$$

$$K_e = \frac{6.50 (1+0.05)}{50} + 0.05 \quad \times 100$$

$$K_e = \underline{\underline{18.65\%}}$$

(02 marks)

$$b) K_p = \frac{d_0}{P_0}$$

$$K_p = \frac{1.2}{12} \times 100$$

$$K_p = \underline{\underline{10\%}}$$

(02 marks)

$$c) K_d = \frac{K (1-T)}{P_0}$$

$$K_d = \frac{10.8}{84} \times 100$$

$$K_d = \underline{\underline{12.86\%}}$$

(02 marks)

d) **Weighted average cost of capital using the market values.**

	MV (Rs. '000)	%	COC	WACC
Ordinary shares	425,000	78.96	18.65	14.73
Preference shares	29,250	5.43	10%	0.54
Debentures	84,000	15.61	12.86	2.01
				<b>17.28</b>

(03 marks)

B) **Cash Flow**

Year	0	1	2	3	4	5
<b>Sales</b>						
1,100,000 x Rs. 220		242,000,000				
1,600,000 x Rs. 220			352,000,000			
2,200,000 x Rs. 220 x (1+8%)				522,720,000		
2,400,000 x Rs. 220 x (1+8%)					570,240,000	
2,500,000 x Rs. 220 x (1+8%) <sup>2</sup>						641,520,000
<b>(-) Variable Cost</b>						
1,100,000 x Rs. 160		(176,000,000)				
1,600,000 x Rs. 160 x (1+5%)			(268,800,000)			
2,200,000 x Rs. 160 x (1+5%) <sup>2</sup>				(388,080,000)		
2,400,000 x Rs. 160 x (1+5%) <sup>3</sup>					(444,528,000)	
2,500,000 x Rs. 160 x (1+5%) <sup>4</sup>						(486,202,500)
<b>(-) Fixed Overheads</b>		(60,000,000)				
60,000,000 x (1+5%)			(63,000,000)			
60,000,000 x (1+5%) <sup>2</sup>				(66,150,000)		
60,000,000 x (1+5%) <sup>3</sup>					(69,457,500)	
60,000,000 x (1+5%) <sup>4</sup>						(72,930,375)
<b>Operating Cash Before Tax</b>	-	6,000,000	20,200,000	68,490,000	56,254,500	82,387,125
Tax payment - W-1	-	-	(4,230,000)	(18,717,000)	(15,046,350)	(32,036,140)
Initial Investment - Equipment	(122,000,000)					
Working Capital	(8,000,000)					8,000,000
<b>Net Cash Flow</b>	<b>(130,000,000)</b>	<b>6,000,000</b>	<b>15,970,000</b>	<b>49,773,000</b>	<b>41,208,150</b>	<b>58,350,985</b>
Discount Factor @ 15%	1.00000	0.869	0.756	0.658	0.572	0.497
Discounted Cash Flow	(130,000,000)	5,214,000	12,073,320	32,750,640	23,571,060	29,000,440
<b>Net Present Value</b>	<b>(27,390,540)</b>					

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**Payments**

	1	2	3	4	5
Profit	6,000	20,200	68,490	56,254.5	82,387.125
Depreciation	24,400	24,400	24,400	24,400	24,400
Capital allowance	(30,500)	(30,500)	(30,500)	(30,500)	-
	<b>(100)</b>	<b>14,100</b>	<b>62,390</b>	<b>50,154.50</b>	<b>106,787.125</b>
30%	-	4,230	18,717	15,046.35	32,036.14

c) **IRR**

	0	1	2	3	4	5
Net Cash Flow	-	6,000,000	15,970,000	49,773,000	41,208,150	58,350,985
	(130,000,000)					
Discount factor 10%	1	0.909	0.826	0.751	0.683	0.621
Discounted cash flow	(130,000,000)	5,454,000	13,191,220	37,379,523	28,145,166	36,236,959
Net Present Value 10%	<b>(9,593,132)</b>					

$$\text{IRR} = 15\% - \left[ \frac{5\%}{17,797.41} \times 27,390 \right] = 7.31\%$$

d) **Reason :** Should not go ahead with the project.

**Suggested Answers to Question Nine:**

A) a)

<b>(i) Direct Material Mix Variance =</b>	Standard Price x [(total actual usage x standard mix) - (total actual usage x actual mix)]	
<b>Material x1</b>	150 x [((18,600 + 44,100) kg x 1.5 / 5.5) - ((18,600 + 44,100) kg x 18,600 / (18,600 + 44,100))]	225,000 Adverse
<b>Material x2</b>	350 [((18,600 + 44,100) kg x 4 / 5.5) - ((18,600 + 44,100)kg x 44,100 / (18,600 + 44,100))]	525,000 Favourable
<b>Total</b>		<b>300,000 Favourable</b>

*(04 marks)*

<b>(ii) Direct Material Yield Variance =</b>	Standard Price x [(total standard usage x standard mix) - (total actual usage x standard mix)]	
<b>Material x1</b>	150 x [((1.5 + 4) kg x 11,300 units x 1.5/5.5) - ((18,600 + 44,100) kg x 1.5/5.5)]	22,500 Adverse
<b>Material x2</b>	350 [((18,600 + 44,100) kg x 4 / 5.5) - ((18,600 + 44,100)kg x 44,100 / (18,600 + 44,100))]	140,000 Adverse
<b>Total</b>		<b>162,500 Adverse</b>

*(04 marks)*

<b>(iii) Sales Margin Volume Variance =</b>	Standard Contribution x (Actual Sales Qty. - Standard Sales Qty.)	
	265 x (11,300 - 11,000) units	<b>79,500 Favourable</b>

*(02 marks)*

b)

<b>Operating Statement</b>			
	<b>Rs. 000</b>	<b>Rs. 000</b>	<b>Rs. 000</b>
<b>Budgeted Contribution</b>			<b>2,915.00</b>
Sales Margin Volume Variances			79.50
			2,994.50
<b>Variances</b>	<b>A</b>	<b>F</b>	
Sales Price Variance		904.00	
Direct Material Price Variance	1,009.50		
Direct Material Mix Variance		300.00	
Direct Material Yield Variance	162.50		
Direct Labour Cost Variance	235.00		
Variable Overhead Cost	354.00		
<b>Total variable cost</b>	<b>1,761.00</b>	<b>1,204.00</b>	<b>(557.00)</b>
<b>Actual contribution</b>			<b>2,437.50</b>

(06 marks)

B) a) Profit Volume Ratio =  $\frac{(450 \times 2,000) + (810 \times 1,000)}{3,800,000} \times 100\%$   
 =  $\frac{1,710,000}{3,800,000} \times 100\%$   
 = **45%**

<b>Rs. per Box</b>	<b>Pineapple</b>	<b>Strawberry</b>
Selling Price	1,080	1,640
Direct Materials	(390)	(542)
Direct Labour	(150)	(180)
Variable Production Overheads	(90)	(108)
Contribution per Box	<b>450</b>	<b>810</b>

(04 marks)

b)

If a Bundle = 2 Box of Pineapple and 1 Box of Strawberry		
Contribution per Bundle	(450 x 2) + (810 x 1)	
	<b>1,710</b>	
Breakeven Sales	Total Fixed Costs / Contribution per Bundle	
	(1,625,000 + 461,200) / 1,710	<b>1,220</b>
Breakeven Sales (in Boxes)		
<b>Pineapple</b>	1,220 x 2	<b>2,440 Boxes</b>
<b>Strawberry</b>	1,220 x 1	<b>1,220 Boxes</b>

(05 marks)

(Total 25 marks)

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***Alternative Answer:***

$$\begin{aligned} \text{BEP in value} &= 2,086,200 / 0.45 \\ &= 4,636,000 \end{aligned}$$

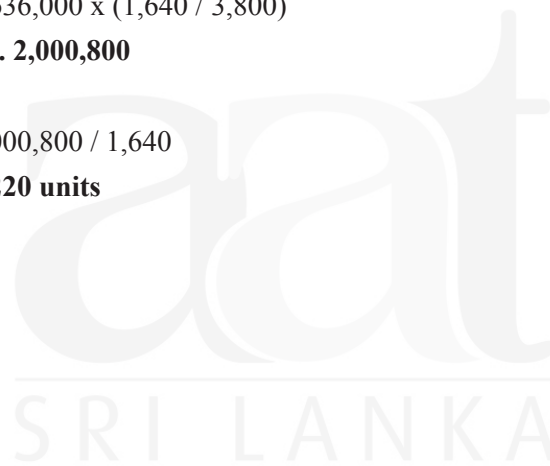
$$\begin{aligned} \text{Pineapple} &= 4,636,000 \times (2,160 / 3,800) \\ &= \mathbf{Rs. 2,635,200} \end{aligned}$$

$$\begin{aligned} \text{In unit} &= 2,635,200 / 1,080 \\ &= \mathbf{2,440 \text{ units}} \end{aligned}$$

**BEP in Value**

$$\begin{aligned} \text{Strawberry} &= 4,636,000 \times (1,640 / 3,800) \\ &= \mathbf{Rs. 2,000,800} \end{aligned}$$

$$\begin{aligned} \text{In unit} &= 2,000,800 / 1,640 \\ &= \mathbf{1,220 \text{ units}} \end{aligned}$$



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***End of Section C***

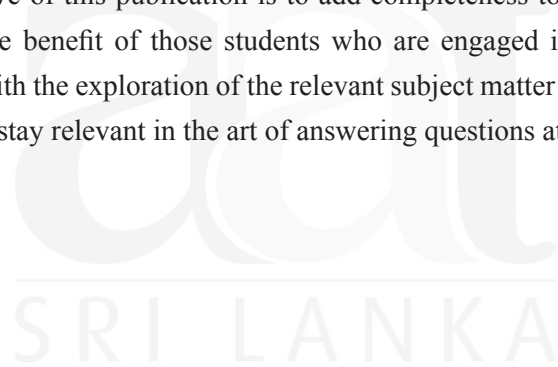
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These should be understood as Suggested Answers to question set at AAT Examinations and should not be construed as the “Only” answers, or, for that matter even as “Model Answers”.

The fundamental objective of this publication is to add completeness to its series of study texts, designs especially for the benefit of those students who are engaged in self-studies. These are intended to assist them with the exploration of the relevant subject matter and further enhance their understanding as well as stay relevant in the art of answering questions at examination level.



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