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SRI LANKA

Association of Accounting Technicians of Sri Lanka

AA3 Examination - January 2020

Suggested Answers
Subject No : AA32

MANAGEMENT ACCOUNTING AND FINANCE (MAF)

A publication of the Education and Training Division

THE ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA

EDUCATION AND TRAINING DIVISION

AA3 Examination - January 2020
(AA32) Management Accounting and Finance

SUGGESTED ANSWERS

Four (04) compulsory questions.

(Total 20 marks)

Suggested Answers to Question One:

> **Chapter 08-Managing Personal Finances**

1. **Assess your station in life:**

   The conventional path to achieving financial independence is a lifetime of sound money - management decisions. A young adult who sticks to a proven wealth-building plan can reasonably expect to reach the goal by retirement age. However, even middle-aged people may be able to achieve the dream of financial independence with determination, particularly through non-traditional methods.

2. **Practice discipline in all money matters:**

   There are a number of ways to scuttle your pursuit of financial independence. Many involve deviating from your fiscal plan, but more involve indiscreet spending.

3. **Embrace careful measures:**

   People who achieve financial independence are careful with their money. They only spend it when they have to. Wealth-building is not just about creating wealth, but about preserving it too. Consider ways you can reduce everyday expenses.

4. **Pay down your debt:**

   Start with your high-interest debt, like credit cards.

5. **Take an active role in your investments:**

   Learn as much about all available investment possibilities as you can.

6. **Consider non-traditional income opportunities:**

   Inventing a new product or service or improving on an existing one can build wealth in a short period of time.

7. **Build on your success:**

   Wealthy people take calculated risks to expand their fortune. They often do this by buying a second rental property or adding a second franchise after success with the first one.

8. **Reject failure:**

   History is full of examples of entrepreneurs who built tremendous wealth, lost it all, and then regained their fortune, sometimes in a completely different industry. Setbacks occur. But over the long term, you can achieve financial independence if you follow an authoritative financial plan.

(05 marks)

Suggested Answers to Question Two:

Chapter 01 - Planning and Controlling Via Budgeting

- The budget plan is based on estimates and forecasting. Forecasting cannot be considered to be an exact amount. If the budget is made on the basis of inaccurate forecasts then the budget progamme may not be accurate and effective.
- Effective implementation of budgetary control depends upon willingness, co-operation and understanding among people for execution. Lack of co-operation leads to inefficient performance.
- The system does not substitute for the management and it is merely a management tool.
- Budgeting may be cumbersome and time consuming process.
- Conflicts among different departments. Budgetary control may lead to conflict among financial departments. Every departmental head works for his department goals without thinking of business goals.
- Budgetary revisions are required.

(05 marks)

Suggested Answers to Question Three:

Chapter 7 - Working Capital Management

	Note	2018/19
Inventory Days	1	85
Trade Receivable Days	2	41
Trade Payable Days	3	(91)
Working Capital Cycle		**35**

Cost of sales=Turnover-Gross Profit

=1,750,000-496,920

=**1,253,080**

Note 01 - Inventory Days

Inventory Days $= \dfrac{\text{Average Inventory}}{\text{Cost of sales}} \times 365 \text{ Days}$

$$\dfrac{(300,000+285,000)/2}{285,000+1,268,080-300,000} \times 365 \text{ Days}$$

$$\dfrac{292,500}{1,253,080} \times 365 \text{ Days}$$

85 Days

Note 02 – Trade Receivable Days

$$\text{Trade Receivable Days} = \frac{\text{Average Receivables}}{\text{Sales}} \times 365 \text{ Days}$$

$$\frac{(221,000+168,000)/2}{1,750,000} \times 365 \text{ Days}$$

$$\frac{194,500}{1,750,000} \times 365 \text{ Days}$$

<u>41 Days</u>

Note 03 – Trade Payable Days

$$\text{Trade Payables Days} = \frac{\text{Average Trade Payables}}{\text{Purchases}} \times 365 \text{ Days}$$

$$\frac{(342,100+286,800)/2}{1,268,080} \times 365 \text{ Days}$$

$$\frac{314,450}{1,268,080} \times 365 \text{ Days}$$

<u>91 Days</u>

(05 marks)

Suggested Answers to Question Four:

Chapter 03-Relevant Costing-Decision Making

	Rs.
Relevant Cost per Mug:	
Direct Material Cost (126,000/1,000 mugs)	126
Direct Labour Cost	-
Other Materials	125
Printing Cost	36
Packaging Cost	14
	301

Recommendation:

Accept the order, since the relevant cost is less than the order price of Rs.400/- per mug.

Workings :

Direct Material:	
Total Requirement (1,000 mugs * 250/1000)	250 kg
In Stock	180 kg
Amount to be bought in the market	70 kg
Direct Material Cost:	
For the 180 kg in stock (since it is a sunk cost)	-
For the 70 kg stock to be bought (70 kg * Rs.1,800 per kg)	126,000
	126,000
Direct Labour	
Total Requirement (1,000 mugs * 18 mins. / 60)	300 hrs.
Idle Time	340 hrs.
Direct Labour Cost:	
Since requirement is less than the idle time, no cost	-

(Total 05 marks)

Three (03) compulsory questions.

(Total 30 marks)

Suggested Answers to Question Five:

Chapter 04 - Decision under Risk and Uncertainty

Demand	Unit Contribution (Sale Price-Variable Cost)	Total Contribution		Probability	Expected Values		
10,000	3,000-2,800-580=(380)	(380)*10,000 =	(3,800,000)	0.26	(3,800,000)*0.26	=	(988,000)
20,000	3,000-2,600-580=(180)	(180)*20,000 =	(3,600,000)	0.30	(3,600,000)*0.30	=	(1,080,000)
30,000	3,000-2,300-580=120	120*30,000 =	3,600,000	0.28	3,600,000*0.28	=	1,008,000
40,000	3,000-2,050-580=370	370*40,000 =	14,800,000	0.16	14,800,000*0.16	=	2,368,000
							1,308,000

Product N

Demand	Probability	Expected Demand
150,000	0.70	105,000
260,000	0.30	78,000
		183,000

Contribution per Unit	=	400-230-140	=	30
Total Expected Contribution	=	30*183,000	=	5,490,000

Recommendation :

Order Product N, since it gives a higher expected profit.

(10 marks)

Suggested Answers to Question Six:

Chapter 01 – Planning and Controlling Via Budgeting

Operating Statement for the year ended 31st December 2019

Rs "000"

	Budget	Flex Budget	Actual	Variance	
Volume/ Sales Quantity	12,000	11,800	11,800	(200)	Adverse
Revenue	3,960,000	3,894,000	3,953,000	59,000	Favourable
Direct Material	(780,000)	(767,000)	(755,200)	11,800	Favourable
Direct Labour	(1,920,000)	(1,888,000)	(1,899,800)	(11,800)	Adverse
Variable Production Overheads	(795,000)	(781,750)	(817,600)	(35,850)	Adverse
Variable Selling Expenses	(140,000)	(137,667)	(124,200)	13,467	Favourable
Fixed Production Overheads	(114,000)	(114,000)	(119,000)	(5,000)	Adverse
Fixed Selling Expenses	(100,000)	(100,000)	(100,000)	-	Adverse
Profit	**111,000**	**105,583**	**137,200**	**31,617**	Favourable

Workings:

Fixed Manufacturing Overhead for 11,800 units

Volume Sales Quantity		Rs.
Revenue	3,960,000 / 12,000 * 11,800	3,894,000
Direct Material cost	780,000 / 12,000 * 11,800	767,000
Direct Labour cost	1,920,000 / 12,000 * 11,800	1,888,000
Variable Production overhead	795,000 / 12,000 * 11,800	781,750
Variable Selling expenses	140,000 / 12,000 * 11,800	137,667
Fixed Production Overheads		114,000
Fixed Selling Expenses		100,000
Profit		**105,583**

(10 marks)

Suggested Answers to Question Seven:

(a) | Chapter 03-Relevant Costing-Decision Making |

Product	Demand (Units)	Material X Requirement unit(Meter)	Total Requirement Meters
Small	10,000	(100/100)1.00	10,000
Medium	8,500	(200/100)2.00	17,000
Large	4,200	(275/100)2.75	11,550
Total requirement (meters)			**38,550**
Material availability			30,000
Shortage(meters)- *X is a Limiting Factor*			**8,550**

Product	Demand (Units)	Material Y requirement unit(Meter)	Total Requirement Meters
Small	10,000	0.5	5,000
Medium	8,500	1	8,500
Large	4,200	1.5	6,300
Total requirement (meters)			19,800
Material availability			20,000
Excess Availability(meters)- *Y is not a Limiting Factor*			(200)

(04 marks)

(b) | Chapter 03 - Relevant Costing - Decision Making |

	Small	Medium	Large
Selling price(Rs. per unit)	1,000	1,550	2,100
Variable cost per unit (Rs.)			
Material X	100	200	275
Material Y	150	300	450
Labour	450	608	675
Variable Production Overhead	120	142	180
	820	1,250	1,580
Contribution per unit	180	300	520
Material requirement per unit	1 meter	2 meter	2.75 meter
Contribution per material	180	150	189.09
Production Ranking	**2**	**3**	**1**

Optimum production mix

Product	Demand (Units)	Consumption	Total Requirement (Meters)
Large Size	4,200	2.75	11,550
Small Size	10,000	1.00	10,000
Medium Size	4,225	2.00	8,450
Material Availability			**30,000**

(06 marks)

(Total 10 marks)

End of Section B

Two (02) compulsory questions.

(Total 50 marks)

Suggested Answers to Question Eight:

(A)	**Chapter 06 - Sources of Capital and Cost of Capital**

(a)

Cost of Ordinary Shares = $\dfrac{\text{Current Dividend per share}}{\text{Market Value per share}}$

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

$$K_e = \frac{2.52}{14} \times 100$$

$$K_e = \underline{18\%} \qquad \text{(02 marks)}$$

(b)

Cost of redeemable Preference Shares $= \dfrac{\text{Dividend}}{\text{Market Price Per Share}}$

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

$$K_p = \frac{1.5}{12} \times 100$$

$$\mathbf{K_p = \underline{\mathbf{12.5\%}}} \qquad \text{(02 marks)}$$

(c)

Cost of Debentures:

Year	Description	Cash Flows	DF @ 10%	Present Values	Discounting Factor @ 12%	Discounted Cash Flows
0	Proceeds from debentures	90	1	90	1	90
1-5	Interest {12-(12*28%)}	(8.64)	3.791	(32.75)	3.603	(31.12)
5	Redemption	(100)	0.621	(62.1)	0.567	(56.1)
			NPV	**(4.85)**		**2.18**

$$\text{Cost of Debenture} = 12\% - \left[\frac{2\% * 2.18}{7.03} \right]$$

$$= \underline{\mathbf{11.38\%}} \qquad \text{(03 marks)}$$

(d) Weighted Average Cost of Capital (WACC) using the Market Values:

Source	Market Value (Rs.'000)	Weightage (%)	Cost of Capital (%)	WACC (%)
Ordinary shares	210,000	71.4	18	12.85
Preference shares	12,000	4.1	12.5	0.5
Debentures	72,000	24.5	11.38	2.79
	Rs. 294,000			**16.14**

(03 marks)

(B) | **Chapter 05 - Investment Appraisal**

(a)

Rs "000"

	0	1	2	3	4	5
Investment	(34,000)	-	-	-	-	14,400
Sales	-	12,113	16,218	19,278	19,635	20,171
Variable Mixing Cost	-	(152)	(192)	(224)	(224)	(224)
Overhead Cost	-	(3,634)	(4,866)	(5,784)	(5,891)	(6,052)
Fixed Maintenance Cost	-	(1,900)	(1,900)	(1,900)	(1,900)	(1,900)
Income Tax**(Working -1)**	-	622	(228)	861	(936)	(7,918)
Net Cash Flow	**(34,000)**	**7,049**	**9,032**	**10,509**	**10,684**	**18,477**
Discounting Factor @ 14%	1	0.877	0.769	0.675	0.592	0.519
Net Present Value	**(34,000)**	**6,182**	**6,945**	**7,094**	**6,325**	**9,589**

NPV= 2,135,000

Working -1

	1	2	3	4	5
Taxable Income	12,113	16,218	19,278	19,635	20,171
Expenses	(5,686)	6,958)	(7,908)	(8,015)	(8,176)
Capital Allowances	(8,500)	(8,500)	(8,500)	(8,500)	-
Disposal Proceed	-	-	-	-	14,400
Taxable Profit	(2,073)	760	2,870	3,120	26,395
Income Tax @ 30%	**622**	**228**	**861**	**936**	**7,918**

(13 marks)

(b) It is recommended to purchase the new machine as it generates a positive NPV of Rs. 1,042,000.

(02 marks)

(Total 25 marks)

Suggested Answers to Question Nine:

(A)	**Chapter 03 - Relevant Costing - Decision Making**

If outsourced:	Rs.
Cost of outsourcing (16,000 units * Rs.680/-)	(10,880,000)
Cost Savings:	
Direct Material (16,000*240)	3,840,000
Direct Labour (16,000*280)	4,480,000
Variable Production Overheads (16,000*48)	768,000
Variable Packaging Cost (16,000*30)	480,000
Variable Selling & Distribution Cost	-
Annual Fixed Production Cost	-
Fixed Selling and Distribution Cost	750,000
	(562,000)

It is recommended to manufacture product X in-house since it saves Rs.562,000 per annum in comparison to outsourcing.

(08 marks)

(B)	**Chapter 02 - Planning and Controlling Via Advance Variances**

(a)   (i)

Direct Material Mix Variance	**= Standard Price of Direct Material (Total Actual Usage * Standard Mix)-(Total Actual Usage*Actual Mix)**		
Material A	= 250 * {[(52,680+4,080) kg * (3/3.25)] -[(52,600 + 4,080) kg * (52,600/(52,600 + 4,080))]} = 250 * (52,394 - 52674)	(70,000)	Adverse
Material B	= 700 * {[(52,600 + 4,080)kg * (0.25/3.25)] - [(52,600 + 4,080)kg * 4,080/(52,600 + 4,080) = 700 * (4,360 - 4,080)	196,000	Favourable
Total		**126,000**	**Favourable**

(04 marks)

(ii)

Direct Material Yield Variance	**= Standard Price of Direct Material (Total standard usage * Standard Mix) - (Total Actual Usage * Standard Mix)**		
Material A	= 250 * {[(3 + 0.25)kg * 16,700units) * (3/3.25)] - [(52,600 + 4,080)hrs * (3/3.25)]} = 250 * (50,100 - 52,320)	(555,000)	Adverse
Material B	= 700 * {[(3 + 0.25)kg * 16,700 units) * (0.25/3.25)] - [(52,600 + 4,080)hrs * 0.25/3.25)]} = 700 * (4,175 - 4,360)	(129,500)	Adverse
Total		**684,500**	**Adverse**

(04 marks)

(iii)

Direct Material Price Variance	= Actual Materials Used * (Standard Price-Actual Price)		
Material A	= {52,600 kg * [250-(12,361,000/52,600kg)]}	789,000	Favourable
Material B	= {4,080kg* [700-((2,917,200/4080kg)]}	(61,200)	Adverse
Total		**727,800**	**Favourable**

(03 marks)

(b) | **Chapter 02 - Planning and Controlling Via Advance Variances** |

Operating Statement

			Rs.
Budgeted Contribution (415*17,500)			7,262,500
Sales Margin Volume Variance			(332,000)
Budgeted contribution of actual sales			**6,930,500**
Variable cost	**A**	**F**	
Sales price variance		668,000	
Direct Material Price Variance		727,800	
Direct Material Mix Variance		126,000	
Direct Material Yield Variance	(684,500)		
Direct Labour Rate Variance	(8,400)		
Direct Labour Efficiency Variance	(12,000)		
Variable Overhead Expenditure Variance		605,100	
Variable Overhead Efficiency Variance	(4,000)		
Total variable cost	**(708,900)**	**2,126,900**	**1,418,000**
Actual Contribution			**8,348,500**

(06 marks)

(Total 25 marks)

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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