



Association of Accounting Technicians of Sri Lanka

Level III Examination - July 2022

Suggested Answers

(302) MANAGEMENT ACCOUNTING AND FINANCE (MAF)

Association of Accounting Technicians of Sri Lanka
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Level III Examination - July 2022

(302) MANAGEMENT ACCOUNTING AND FINANCE

SUGGESTED ANSWERS

Four (04) compulsory questions
(20 Marks)

SECTION - A

Suggested Answers to Question One:

Chapter 07 - Working Capital Management

	Workings	As at 31 st March 2022
Inventory residence period		73 days
Trade receivables residence period	1	<u>91 days</u>
		164
(-) Trade payables residence period	2	<u>(128 days)</u>
Length of working capital cycle		<u>36 days</u>

Workings

1) Calculating Trade receivables residence period/ Debtors collection period

$$\begin{aligned}
 \text{Receivables residence period} &= \frac{\text{Average Trade Receivables}}{\text{Credit Sales}} \times 365 \text{ Days} \\
 &= \frac{(4,525,000 + 2,850,000) / 2}{29,500,000 \times 50\%} \times 365 \text{ Days} \\
 &= \frac{3,687,500}{14,750,000} \times 365 \text{ Days} \\
 &= \underline{\underline{91 \text{ Days}}}
 \end{aligned}$$

2) Calculating Trade payables residence period/ Creditors settlement period

$$\begin{aligned}
 \text{Payables residence period} &= \frac{\text{Average Trade Payables}}{\text{Credit purchases}} \times 365 \text{ Days} \\
 &= \frac{(3,400,000 + 5,060,000) / 2}{12,100,000 \text{ (W3)}} \times 365 \text{ Days} \\
 &= \frac{4,230,000}{12,100,000} \times 365 \text{ Days} \\
 &= \underline{\underline{128 \text{ Days}}}
 \end{aligned}$$

3) Calculating Inventory Residence Period

$$\begin{aligned}
 \text{Inventory Resident Period} &= \text{Average Stock} \times 365 \\
 73 &= \frac{\text{Cost of Sales}}{2} \times 365 \\
 \frac{73 \times 73}{x} &= \frac{857,750,000}{73} \\
 x &= \mathbf{11,750,000}
 \end{aligned}$$

$$\begin{aligned}
 \text{Purchases} &= \text{Cost of sales} + \text{Closing inventory} + \text{Opening inventory} \\
 &= 11,750,000 + 2,525,000 - 2,175,000 \\
 &= \mathbf{12,100,000}
 \end{aligned}$$

(05 marks)

Suggested Answers to Question Two:

Chapter 01 - Introduction to the Management Accounting, Relevant Cost and Decision Making under risk and uncertainty

Income Statement for the month ended 31st July 2022

			Rs.
Sales	1,915 x Rs.1,400		2,681,000
(-) Cost of sales			
Opening stock	400 x Rs.825	330,000	
Production variable cost (W1)	1,870 x Rs.825	<u>1,542,750</u>	
		1,872,750	
Closing stock	355 x Rs.825	<u>(292,875)</u>	
Cost of sales			<u>(1,579,875)</u>
Contribution			1,101,125
Fixed Overheads			
Production overheads		265,000	
Non-production overheads		<u>468,000</u>	<u>(733,000)</u>
Profit for the year			368,125

Workings:

Calculating Unit variable production cost

	Rs.
Direct Material	550
Direct Labour	200
Variable Overhead	75
	<u>825</u>

(05 marks)

Suggested Answers to Question Three:

Chapter 03 - Different Types of Budgets and Planning & Controlling Vs Budgeting

(Rs.'000)					
Rs.000	Budget		Flexible Budget	Actual	Variance
Volume	5,500		3,500	3,500	-
Sales	17,600	$17,600/5,500 \times 3,500$	11,200	11,200	-
Variable cost					
Direct material	(6,152)	$6,152/5,500 \times 3,500$	3,914.91	4,192	277.09 A
Direct labour	(4,823)	$4,823/5,500 \times 3,500$	3,069.18	3,223	153.82A
Variable production overhead	(1,120)	$1,120/5,500 \times 3,500$	712.73	649	63.73 F
Total variable cost	(12,095)		7,696.82	8,064	367.18A
Contribution	5,505		3,503.18	3,136	367.18A
Fixed cost - Production	(525)		525.00	448	77.00F
Fixed cost - Administration	(648)		648.00	648	-
Total fixed cost	1,173		1,173.00	1,096	77.00F
Profit	4,332		2,330.18	2,040	290.18A

(05 marks)

Suggested Answers to Question Four:

Chapter 01 - Introduction to the Management Accounting, Relevant Cost and Decision Making under risk and uncertainty

Production Budget

Purchases (6,600 × 1,350)	8,910
Cost Savings :	
Direct Material (650 × 6,600)	(4,290)
Direct Labour (420 × 6,600) /50%	(1,386)
Variable production OH (245 × 6,600)	(1,617)
Compensation	2,500
Fixed Cost (105 × 6,600) × 30%	(207.9)
Machine Disposal	(2,300)
Additional Savings	1,609.10

Based on the above evaluation, it is recommended to Purchase Component X.

(05 marks)

End of Section A

Suggested Answers to Question Five:

Chapter 01 - Introduction to the Management Accounting, Relevant Cost and Decision Making under risk and uncertainty

(a)

Skilled Labour

Product	Demand / Budgeted Sales (units)	Skilled Labour A requirement (Hours)	Total Requirement (Hours)
Small	500	0.8	400
		(160/200)	
Medium	300	1	300
		(200/200)	
Large	160	1.2	192
		(240/200)	
Total Required (Hours)			892
Skilled Labour Availability (Hours)			860
Shortage			32

Unskilled Labour

Product	Demand / Budgeted Sales (units)	Unskilled Labour A requirement (Hours)	Total Requirement (Hours)
Small	500	1	500
		(150/150)	
Medium	300	1.5	450
		(225/150)	
Large	160	1.8	288
		(270/150)	
			1,238
Unskilled Labour Availability (Hours)			1,300
Excess			(62)

Limiting factor is Skilled Labour

(04 marks)

(b)

	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Selling price	800	1,100	1,500
(-) Variable cost			
Direct material	300	450	650
Skilled labour	160	200	240
Unskilled labour	<u>150</u>	<u>225</u>	<u>270</u>
Total variables cost	(610)	(875)	(1,160)
Contribution	190	225	340
Skilled labour hours per unit	0.8	1	1.2
Contribution per skilled labour hour	237.5	225	283.33

Rank

2

3

1

Optimal Product Mix

Product	Production plan	Skilled Labour requirement (Hours)	Total Requirement Hours
Large	160	1.2	192
Small	500	0.8	400
Medium	268	1	268
			860

(06 marks)
(Total 10 marks)

Suggested Answers to Question Six:

Chapter 03 - Different Types of Budgets and Planning & Controlling Vs Budgeting

Cash Budget			
	Oct-22	Nov-22	(Rs.) Dec-22
Receipts:			
Cash sales (W1)	1,093,500	1,215,000	1,518,750
Collection from debtors (W1)	<u>2,551,500</u>	<u>2,551,500</u>	<u>2,735,775</u>
Total receipt	<u>3,645,000</u>	<u>3,766,500</u>	<u>4,254,525</u>
Payments:			
Payment to Raw material A (W2)	1,440,000	1,440,000	1,440,000
Payment to Raw material B (W2)	240,000	240,000	276,000
Labour cost (W3)	450,000	450,000	517,500
Administration expenses	180,000	180,000	180,000
Total payments	2,310,000	2,310,000	2,413,500
Net cash flows	1,335,000	1,456,500	1,841,025
B/B/F	140,000	1,475,000	2,931,500
B/C/F	1,475,000	2,931,500	4,772,525

W1 - Online sales and collection from customers

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
Sales Quantity	2,700	2,700	2,700	3,000	3,750
Sales @ Rs.1,350 per unit	3,645,000	3,645,000	3,645,000	4,050,000	5,062,500
Online sales - @ 30%	1,093,500	1,093,500	1,093,500	1,215,000	1,518,750
Wholesale @ 70%	2,551,500	2,551,500	2,551,500	2,835,000	3,543,750
Whole sale collection 30 days @ 65%		1,658,475	1,658,475	1,658,475	1,842,750
Whole sale collection 60 days @ 35%			893,025	893,025	893,025
Collection from debtors	-	1,658,475	2,551,500	2,551,500	2,735,775

W2 - Payments to raw material

	Oct-22	Nov-22	Dec-22
Production Quantity	3,000	3,000	3,450
Raw material A Rs.480	1,440,000	1,440,000	1,656,000
Payment for raw material A	1,440,000	1,440,000	1,440,000
Payment for raw material B @ Rs.80	240,000	240,000	276,000

W3 - Labour

	Oct-22	Nov-22	Dec-22
Labour cost @ Rs.150 per unit	450,000	450,000	517,500

*(10 marks)***Suggested Answers to Question Seven:****Chapter 05 - Sources of Capital and Cost of Capital****(a)**

- 1) Cost
- 2) Profitability (impact to Earnings per Share)
- 3) Financial risk
- 4) Dilution of ownership
- 5) Asset base
- 6) Duration
- 7) Gearing (impact on debt equity)
- 8) Size and nature of the company's business (business risk)
- 9) Availability of alternative sources of finance
- 10) Legal restrictions

*(02 marks)***(b)****(i) Cost of Ordinary Voting Shares**

$$K_e = \frac{D_0 (1+g) + g}{P_0} \times 100\%$$

$$K_e = \left[\frac{6(1+0.05)}{36} + 0.05 \right] \times 100\%$$

$$K_e = \underline{\underline{22.50\%}}$$

(02 marks)

(ii) Cost of Redeemable Debentures

Investors point of view:

Year	Description	Cash Flows	DF @ 5%	PV	DF @ 10%	PV
0	Issue	95	1	95	1	95
1-5	Interest	(7.60) (100*10%*76%)	4.329	(32.9)	3.791	(28.81)
5	Redemption	(100)	0.784	(78.35)	0.621	(62.09)
NPV				<u>16.26</u>		<u>(4.10)</u>

$$\begin{aligned} \text{IRR} &= A + \frac{\text{NPVa}}{\text{NPVa} - \text{NPVb}} \times (B-A) \\ &= 5\% + \frac{16.26}{16.26 + 4.10} \times (10\% - 5\%) \\ &= 0.05 + \frac{16.26}{20.36} \times 5\% \\ &= 0.05 + 0.7986 \times 0.05 \\ &= \underline{\underline{8.99\%}} \end{aligned}$$

**The answer would slightly differ based on the discount rates selected to compute NPVs to be used in IRR formula*

(03 Marks)

(iii) Weighted Average Cost of Capital using the market values

Source	Market Value (Rs.'000)	Weightage	COC %	WACC
Ordinary shares	720,000	52%	22.5%	11.70
Debentures	665,000	48%	8.99 %	4.32
				16.02

(03 Marks)

(Total 10 marks)

End of Section B

Suggested Answers to Question Eight:

Chapter 04 - Standard Costing & Variance Analysis

(a)

(i)

DM Price

Variance	=	(Standard Price	-	Actual Price)	×	Actual Quantity	=	
T1	=	(800	-	780)	×	1,180	=	23,600 F
T2	=	(160	-	220)	×	24,200	=	<u>1,452,000</u> A
								<u>1,428,400</u> A

(02 marks)

(ii)

Direct Material Mix Variance =	Standard price of DM × [(total actual material usage × standard mix) - (total actual material usage × actual mix)]		
Material T1	800 × [(25,380 × 0.25 / 5) - (25,380 × 1,180 / (25,380))] 800 × (1,269 - 1,180)	71,200	Favourable
Material T2	160 × [(25,380 × 4.75 / 5) - (25,380 × 24,200 / (25,380))] 160 × (24,111 - 24,200)	14,240	Adverse
Total	71,200 F - 14,240A	56,960	Favourable

(04 marks)

(iii)

Direct Material Yield Variance =	Standard price × [(total standard usage × standard mix) - (total actual usage × standard mix)]		
Material T1	800 × [(21,100 × 0.25 / 5) - (25,380 × 0.25 / 5)] - [800 × (1,055 - 1,269)]	171,200	Adverse
Material T2	160 × [(21,100 × 4.75 / 5) - (25,380 × 4.75 / 5)] 160 × (20,045 - 24,111)	650,560	Adverse
Total	650,560 A - 171,200 A	821,760	Adverse

(04 marks)

(b)

Operating Statement

Budgeted Contribution	4,500*1,140			5,130,000
Sales margin volume variance				<u>(319,200)</u>
Budgeted contribution of actual sales	4,220*1,140			4,810,800
Adjusting variances		A	F	
Direct material price variance		(1,428,400)		
Direct material mix variance			56,960	
Direct material yield variance		(821,760)		
Direct labour rate variance		(61,800)		
Direct labour efficiency variance			30,000	
Variable OH expenditure variance		(92,700)		
Variable OH efficiency variance			10,000	
Sales contribution price variance			316,500	
		(2,404,660)	413,460	(1,991,200)
Actual Contribution				2,819,600

(05 marks)

(Total 15 marks)

Suggested Answers to Question Nine:

Chapter 06 - Capital Investments Appraisal

(a)

(Rs'000)

	Y0	Y1	Y2	Y3	Y4	Y5
Initial Investment	(50,000.00)					
Set Up Cost	(2,000.00)					
Revenue		30,000.00	40,000.00	45,000.00	46,000.00	37,000.00
Rent Expenses		(2,400.00)	(2,520.00)	(2,646.00)	(2,778.30)	(2,917.21)
Administration Expenses		(4,000.00)	(4,000.00)	(4,000.00)	(4,000.00)	(4,000.00)
Staff Cost		(3,600.00)	(3,600.00)	(3,600.00)	(3,600.00)	(3,600.00)
Equipment Replacements				(60,000.00)		25,000.00
Income Tax (W1)		(2,400.00)	(4,771.20)	(8,340.96)	(5,669.21)	(835.86)
PV	(52,000.00)	17,600.00	25,108.80	(33,586.96)	29,952.49	50,646.93
DCF @ 15%	1	0.869	0.756	0.658	0.572	0.497
	(52,000.00)	15,294.40	18,982.25	(22,100.22)	17,132.82	25,171.52

NPV = 2,480.78

Workings

W1 - Income tax

	Y1	Y2	Y3	Y4	Y5
Profit Before Depreciation	20,000.00	29,880.00	34,754.00	35,621.70	26,482.79
Capital allowance 1 - On initial Equipment	(10,000.00)	(10,000.00)			
Capital allowance 2 - On Replacement Equipment				(12,000.00)	
Taxable Profit on disposal (W2)					(23,000.00)
Taxable profit	10,000.00	19,880.00	34,754.00	23,621.70	3,482.79
Income tax @ 24%	2,400.00	4,771.20	8,340.96	5,669.21	835.86

W2 - Taxable Profit/ (loss) on Disposal of Equipment

Tax Written Down Value

Cost	60,000.00
(-) Capital allowance claimed	(12,000.00)
	<hr/>
	48,000.00
Scrap Value	(25,000.00)
Taxable Profit on Disposal	<hr/> <hr/>
	23,000.00

(13 marks)

(b)

It is recommended to accept the project since it generated a positive NPV

(02 marks)

(Total 15 marks)

Suggested Answers to Question Ten:

(A)

Chapter 02 - Process Costing and Digital Costing

Process Account					
Description	Units	Value	Description	Units	Value
WIP B/F	500	199,730	Transferred to finished goods	8,600	5,620,100
Direct Material	10,000	3,600,000	Normal loss	500	50,000
Direct Labour	-	1,944,000	Abnormal loss	300	196,050
Overhead	-	648,000	WIP C/D	1,100	525,580
	10,500	6,391,730		10,500	6,391,730

W1- Statement of Equivalent Units

	Total Qty Kgs	D. Material		D. Labour		V. Overhead	
		Degree of Completion	Equivalent Units	Degree of Completion	Equivalent Units	Degree of Completion	Equivalent Units
Opening stock - Output	500	100%	500	100%	500	100%	500
Fresh Output	8,100	100%	8,100	100%	8,100	100%	8,100
Normal loss 5% of input	500	-	-	-	-	-	-
Abnormal loss	300	100%	300	100%	300	100%	300
Closing WIP	1,100	100%	1,100	40%	440	30%	330
Total input	10,500		10,000		9,340		9,230

W2- Computation of unit cost

	Direct Material	Direct Labour	Variable Overhead	Total
Opening cost	175,000	17,400	7,330	199,730
Cost of Input	3,600,000	1,944,000	648,000	6,192,000
Sale of NL as scrap units @100/-	(50,000)	-	-	(50,000)
Net cost of input	3,725,000	1,961,400	655,330	6,341,730
Expected Equivalent Units	10,000	9,340	9,230	
Average cost of unit produced	372.50	210.00	71.00	653.50

W3 - Statement of evaluation

	Direct Material			Direct Labour			Variable Overhead			Grand Total
	Equivalent Units	Unit Cost	Total	Equivalent Units	Unit Cost	Total	Equivalent Units	Unit Cost	Total	
Output	8,600	372.5	3,203,500	8,600	210	1,806,000	8,600	71	610,600	5,620,100
Abnormal loss	300	372.5	111,750	300	210	63,000	300	71	21,300	196,050
Closing WIP	1,100	372.5	409,750	440	210	92,400	330	71	23,430	525,580

(14 marks)

(B)

Chapter 01- Introduction to the Management Accounting, Relevant Cost and Decision Making under risk and uncertainty

(a)

	PQ	QR	Total
No. of units	18,000	36,000	
Selling Price	1,400	600	
Less: Variable Cost			
Direct Material	(530)	(320)	
Direct Layout	(180)	(85)	
Variable Production Overhead	(120)	25)	
Contribution per unit	570	170	
Total Contribution	10,260,000	6,120,000	16,380,000
	(570 × 18,000)	(170 × 36,000)	
Total Sales	25,200,000	21,200,000	46,800,000
	(1,400 × 18,000)	(600 × 36,000)	
Combined PV Ratio	=	$\frac{\text{Contribution}}{\text{Sales}} \times 100$	
	=	$\frac{16,380.00}{46,800.00} \times 100$	
	=	35%	

(04 marks)

(b)

B/E Sales Value

$$\begin{aligned} &= \frac{\text{Fixed Cost}}{\text{Combined PV ratio}} \\ &= \frac{8,610,000}{35\%} \\ &= \text{Rs } \underline{\underline{24,600,000}} \end{aligned}$$

(02 marks)

(Total 20 marks)



End of Section C

Notice:

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