Principles of Management Accounting

(MAC2601)

TUTORIAL LETTER 203
(Solution of assignment 3 – unique number: 213111)

FIRST SEMESTER

DEPARTMENT OF MANAGEMENT ACCOUNTING

Bar code

CONTENTS

1 INTRODUCTION

Dear Student

Enclosed please find the suggested solution for assignment 03/2013 (first semester). It is in your own interest to compare the suggested solutions with your own answers and, should there be any differences, to establish whether calculation errors or errors of principle have been made.

Kind regards,

	Telephone number	Office number	E-mail
RK Nzhinga (Mr)	(012) 429-6937	1 – 49	MAC2601-13-S1@unisa.ac.za
M Ramaleba (Mr)	(012) 429-4334	1 – 47	
JM Verster (Mrs)	(012) 429-4767	1 – 50	

LECTURERS: MAC2601

2 ASSESSMENT PLAN – ASSIGNMENT 03/2013

(First semester)

Number	Correct alternative	Calculation/reference/explanation
1.	(1)	Study guide 2, page 21
2.	(1)	Calculation 1, ①
3.	(2)	Calculation 1, ②
4.	(2)	Calculation 1, ③
5.	(1)	Calculation 1, ④
6.	(2)	Calculation 2
7.	(2)	Calculation 3
8.	(4)	Calculation 4
9. 10.	(3) (3)	Calculation 5 Calculation 6
11.	(4)	Calculation 7
12.	(2)	Calculation 8
13.	(1)	Calculation 9
14.	(4)	The total rent has to be incurred independent of whether the machine is removed from the office, or not
15.	(3)	From a purely quantitative perspective, alternative 1 will be selected due to the lower net relevant cost thereof. However, alternative 2 may be preferred due to non-monetary factors, like the entity striving to be more socially responsible.
16.	(2)	Calculation 10
17.	(1)	Level of demand that has the highest probability of occurring.
18.	(4)	Calculation 11
19.	(2)	Conditional contribution of no expansion is R1 400 000. Multiply by 1,0 = R1 400 000 expected value. See also calculation 12 for evaluation of other alternatives.
20.	(3)	Calculation 12, ①

3 WORKINGS

1.

	April	May	June	Total
Budgeted sales in units	15 000	25 000	50 000	90 000
Selling price per unit (R)	20	20	20	20
Total budgeted sales (R)	300 000	500 000	1 000 000	1 800 000
Credit sales = 80%	240 000	400 000	800 000	1 440 000
A: Cash sales = 20%	**60 000**	**100 000**	**200 000**	**360 000**

Schedule of cash collection <u>from debtors</u>:

	April	May	June	Total
	R	**R**	**R**	**R**
February sales				
R230 000 x 80% x 10%	18 400			18 400
March sales				
R260 000 x 80% x 70%	145 600			145 600
R260 000 x 80% x 10%		20 800		20 800
April sales				
R240 000 x 20%	48 000			48 000
R240 000 x 70%		168 000		168 000
R240 000 x 10%			24 000	24 000
May sales				
R400 000 x 20%		80 000		80 000
R400 000 x 70%			280 000	280 000
June sales				
R800 000 x 20%			160 000	160 000
B: Cash from debtors	**212 000**	**268 800**	**464 000②**	**944 800③**
A + B: Total cash collection	**272 000①**	**368 800**	**664 000**	**1 304 800**

Accounts receivable as at 30 June 2013:

	R
From May sales: R400 000 × 10%	40 000
From June sales: R800 000 × 70%	560 000
From June sales: R800 000 × 10%	80 000
Balance: accounts receivable as at 30 June 2013	680 000④

2. Hours worked

Actual direct labour cost	R872 640
Divided by: Actual rate	R28,80
Actual hours	30 300

3. Material purchase price variance

Actual quantity at actual price OR Actual cost		Actual quantity at standard price
		(R850 040/R39,50) x R39,60 = 21 520 x R39,60
R850 040	(given)	= R852 192

Variance = R2 152 favourable

4. Material quantity variance

Actual quantity at standard price	Standard quantity allowed for actual production @ std. price
	4kg x 5 200 x R39,60
R852 192 (from calc. 3	= R823 680

Variance = R28 512 unfavourable

5. Labour efficiency variance

Actual hours at standard rate	Standard hours allowed for actual production @ std. rate
30 300 x R28,70	5 x 5 200 x R28,70
= R869 610	= R746 200

Variance = R123 410 unfavourable

6. Variable manufacturing overhead spending variance

Actual hours at actual rate OR Actual cost		Actual hours at standard rate
		30 300 (from calc. 2) x R10,00
R247 500 (given)		= R303 000

Variance = R55 500 favourable

7. i. Identifying the limiting factor

	Large	Small
Specialist sewing hours required (600 x 6) (720 x 4,5)	3 600	3 240

Total hours required (3 600 + 3 240)	6 840
Available (150 x 12 x 3)	5 400
Shortfall/Limitation in **specialist sewing hours**	1 440

ii. Calculating the contribution per unit for each of the products

	Large R/unit	Small R/unit
Selling price	460	330
Less: Variable costs	①(360)	②(273)
Contribution per unit	100	57

① 40 + (6 x 50) + 20 = R360
② 28 + (4,5 x 50) + 20 = R273

iii. Calculating the contribution per limiting factor for each of the products

	Large	Small
Contribution per unit (R)	100	57
Multiplied by: Output (units) per specialist sewing hour	③0,17	④0,22
Contribution per specialist sewing hour (R)	17	12,54

③ 1 unit / 6 specialist sewing hours = 0,17 units per specialist sewing hour (rounded to two decimals)
④ 1 unit / 4, 5 specialist sewing hours = 0,22 units per specialist sewing hour (rounded to two decimals)

iv. Identifying the order in which the specialist sewing hours should be used to manufacture products

The order in which the company has to manufacture its products (from highest to lowest contribution per limiting factor) is:
1. Large (R17 per hour)
2. Small (R12,54 per hour)

v. Allocating the specialist sewing hours to the products in the identified order until there are no specialist sewing hours left

Specialist sewing hours available	5 400
1. Large	3 600
Remaining	1 800
2. Small	1 800
	-

vi. Calculating the number of units that should be manufactured for the year (per product) and the associated contribution

		Units	Contribution
1.	Large	3 600 x 0,17 = **612** x R100 =	R61 200
2.	Small	1 800 x 0,22 = **396** x R57 =	R22 572
Total			R83 772

Lecturers' note: In line with the relevant myUnisa announcement, the answer i.r.o. large blankets exceeded demand slightly due to a rounding difference.

8. Cost of machine (R30 000) is a sunk cost and therefore irrelevant.

The administrative worker that will be doing the project work is a permanent labourer of which the salary cost will be incurred whether the order is accepted or not. Also, he/she has enough idle time available for the project, which means that there is no alternative use for the time he/she spends on the project. Therefore there is no relevant cost involved in this regard.

Incremental cash outflows	
Refurbishment costs	10 000
Variable cost for 5 000 face cloths (5 000 x 2)	10 000
Opportunity costs	0
	20 000

9. R70/hour x 10 hours = R700
R700 + R20 000 (from calc. 8) = R20 700

10. The expected value of the demand for racquets in 2014 is:

Demand	Probability	Weighted demand
40 000 racquets	5%	2 000
60 000 racquets	15%	9 000
80 000 racquets	40%	32 000
100 000 racquets	30%	30 000
140 000 racquets	10%	14 000
Total		87 000

11. Key formula: BREAKEVEN VALUE

Breakeven value = $\frac{\text{total fixed costs}}{\text{Contribution ratio}}$

= $\frac{3\ 600\ 000}{0{,}25}$

= R14 400 000

Breakeven value = breakeven units x selling price per unit

THUS:

Breakeven units = breakeven value / selling price per unit

= 14 400 000 / 400

= 36 000 racquets

Budget:

Margin of safety ratio = $\frac{87\ 000 - 36\ 000}{87\ 000} \times 100\%$

= 58,62%

Actual:

Margin of safety ratio = $\frac{92\ 000 - 36\ 000}{92\ 000} \times 100\%$

= 60,87%

Absolute increase = 60,87% - 58,62% = 2,25%

Relative increase = 2,25% / 58,62% = 3,84%

Thus: A relative increase of approximately 3,8%

12.

Step 1 - Calculate the expected value associated with the lowest level

Outcome number	Conditional contribution (R)	Probability	Weighted contribution (R)
5	1 400 000 x 1,05 = 1 470 000	0,5	735 000
6	1 400 000 x 1,12 = 1 568 000	0,3	470 400
7	1 400 000 x 1,2 = 1 680 000	0,2	336 000
Total		1,0	1 541 400

Step 2 - Calculate the expected value associated with the second lowest level

Group of outcomes	Outcome number	Conditional contribution (R)	Probability	Weighted contribution (R)
1 – 2	**1**	1 400 000 x 1,15 = 1 610 000	0,60	966 000
	2	1 400 000 x 1,05 = 1 470 000	0,40	588 000
Total for the group	**Mpumalanga**		**1,00**	**1 554 000**
3	**3**	1 400 000	1,00	1 400 000
Total for the group	**No expansion**		**1,00**	**1 400 000**
4, 5 - 7	**4**	1 400 000 x 1,01 = 1 414 000	0,30	424 200
	5 – 7 (from step 1)	1 541 400	0,70	1 078 980①
Total for the group	**Free State**		**1,00**	**1 503 180**

Lecturers' note: Outcome 4 is not applicable to sub-question 20, as it involves the competitor indeed deciding to expand into the Free State, which is in contrast with the information provided in the sub-question.

Step 3 – Make a decision by comparing the expected values

The decision will be between expanding into Mpumalanga (with an expected value of R1 554 000), expanding into the Free State (with an expected value of R1 503 180) or no expansion (with an expected value of R1 400 000).

Based on the available quantitative information, the logical decision would be to expand into Mpumalanga as its expected contribution is the highest of the three alternatives.