

MANAGEMENT ACCOUNTING (MBAB 823)

MEMORANDUM NOVEMBER 2019 – TOTAL 100

QUESTION 1		(45)
1.1	D	(3)
1.2	D	(3)
1.3	A	(3)
1.4	A	(3)
1.5	A	(3)
1.6	B	(3)
1.7	A	(3)
1.8	D	(3)
1.9	B	(3)
1.10	A	(3)
1.11	B	(3)
1.12	D	(3)
1.13	A	(3)
1.14	A	(3)
1.15	D	(3)

1.12

Supporting Calculations:

Sales (500 x R200)	R100 000
Less variable expenses (500 x R70)	<u>35 000</u>
Contribution margin	R 65 000
Avoidable fixed costs	<u>45 000</u>
Segment margin	<u>R 20 000</u>

1.13

Supporting Calculations:

Sales (100 x R400)	R 40 000
Less variable expenses (100 x R260)	<u>R 26 000</u>
Contribution margin	R 14 000
Avoidable fixed costs	<u>R 29 000</u>
Segment margin	<u>R(15 000)</u>

QUESTION 2

(19)

Volume-based Costing Versus ABC

2.1 Predetermined overhead rate based on machine hours

- = Total budgeted overhead cost / Selected level of production activity
- = (R100 000 + R80 000 + R200 000 + R100 000) / 10 000 machine-hours
- = R480 000 / 10 000 machine-hours
- = R48,00 per machine-hour

<u>Product</u>	<u>Total Manufacturing Overhead</u>	<u>Barrel</u>	<u>OH per Barrel</u>
P5	R48,00 x 1,000 MH = R48 000	500	R96,00
G23	R48,00 x 1,000 MH = R48 000	500	R96,00

(6)

2.2 Overhead Rates:

<u>Overhead Cost Pool</u>	<u>Budgeted Overhead</u>	<u>Level of Cost Driver</u>	<u>Predetermined Overhead Rate</u>
Machine set-ups	R100 000	100 setups	R1 000 per setup
Material handling	80 000	8 000 barrels	R10 per barrel
Quality control inspection	200 000	1 000 inspections	R200 per inspection
Other overheads	100 000	10 000 machine hrs	R10 per MH

Overhead Per Barrel:

<u>Overhead Cost Pool</u>		<u>Manufacturing Overhead</u>			
		<u>P5</u>		<u>G23</u>	
<u>Rate</u>	<u>Activity</u>	<u>Overhead</u>	<u>Activity</u>	<u>Overhead</u>	
Machine set-ups R1 000	1	R 1 000	50	R50 000	
Material handling R10	500	5,000	500	5 000	
Quality control R200	2	400	20	4 000	
Other overheads R10	1 000	<u>10 000</u>	1 000	<u>10 000</u>	
Total overhead		R16 400		R69 000	
Number of barrels		÷ <u>500</u>		÷ <u>500</u>	
Cost per barrel		<u>R 32,80</u>		<u>R138,00</u>	

(8)

2.2 (continued)

- The volume-based rate significantly **undercosts** the G23 product which requires several times the **amount of machine setup** and **quality inspection** effort relative to product P5. This means that pricing and analysis of product line profitability will be distorted. Strategic planning based on profitability analysis will also be misguided as a result. Suppose, for example, that CCO, using volume-based accounting, is asked to bid on a rather larger order for the G23 product; it is likely to win the order because the volume-based cost is distorted – too low. The problem then is that CCO must produce and sell this order **at very low or negative profits**, because its actual costs of producing the order will be closer to the ABC costs. Similarly, bidding for a potential order on the P5 product will likely fail under the volume-based system, as CCO's costs are distorted again – this time too high. CCO will lose these potentially profitable orders.

Under volume-based costing, CCO will likely see its order mix **shift to G23 and away from P5**, as competitors that use ABC costing will use proper pricing and get the most profitable orders. The result might be that CCO's sales will continue to increase (lots of G23), but its profitability will decline (G23 is not priced properly). This is a good signal of a firm that needs ABC costing – sales up but profits down, in this case, because of an unprofitable shift in the product mix due to cost distortions in volume-based costing.

(5)

QUESTION 3 (Job costing)

(20)

3.1. Predetermined overhead rate

= budgeted overhead ÷ budgeted direct-labor cost

= R5 460 000 ÷ R4 200 000 = 130% of direct labor cost (2)

3.2. Additions (debits) total R15 605 000 [R5 600 000 + R4 350 000 + (R4 350 000 x 130%)]. (3)

3.3. The finished-goods inventory consisted of job no. 2143, which cost R351 500 [R156 000 + R85 000 + (R85 000 x 130%)]. (3)

3.4. Since there is no work in process at year-end, all amounts in the Work-in-Process account must be transferred to Finished-Goods Inventory. Thus:

Finished-Goods Inventory	15 761 800*	
Work-in-Process Inventory.....		15 761 800

*Beginning balance in Work-in-Process Inventory + additions to the account:

R156 800 + R15 605 000 = R15 761 800 (2)

3.5

✓ Finlon's applied overhead totals 130% of direct-labour cost, or R5 655 000 (R4 350 000 x 130%). Actual overhead was R5 554 000, itemized as follows, resulting in overapplied overhead of R101 000.

Indirect materials used	R 65 000
Indirect labor	2 860 000
Factory depreciation	1 740 000
Factory insurance	59 000
Factory utilities	<u>830 000</u>
Total	<u>R 5 554 000</u>

Manufacturing Overhead	101 000	
Cost of Goods Sold.....		101,000

(4)

3.6 The company's cost of goods sold totals R15 309 300:

Finished-goods inventory, Jan. 1.....	R	0	
Add: Cost of goods manufactured.....		<u>15 761 800</u>	✓
Cost of goods available for sale.....	R15 761 800		
Less: Finished-goods inventory, Dec. 31....		<u>351 500</u>	✓
Unadjusted cost of goods sold.....	R15 410 300		
Less: Overapplied overhead.....		<u>101 000</u>	✓
Cost of goods sold.....		<u>R15 309 300</u>	✓
✓		(4)	

3.7 No, selling and administrative expenses are operating expenses of the firm and are treated as period costs rather than product costs. Such costs are unrelated to manufacturing overhead and cost of goods sold. ✓

(2)

QUESTION 4 (ROI and performance evaluation)

(16)

1. Sales margin: $R360\,000 \div R4\,800\,000 = 7.5\%$

Capital turnover: $R4\,800\,000 \div R6\,000\,000 = 80\%$

Return on investment: $R360\,000 \div R6\,000\,000 = 6\%$, or

$$7.5\% \times 80\% = 6\%$$

(3)

2. Strategy (a): Income will be reduced to R300 000 because of the loss, and invested capital will fall to R5 940 000 from the disposal. $ROI = R300\,000 \div R5\,940\,000$, or 5.05%. This strategy should be rejected, since it further hurts Washburn's performance.

(2)

Strategy (b): In terms of ROI, this strategy neither hurts nor helps. The acceleration of overdue receivables increases cash and decreases accounts receivable, producing no effect on invested capital. Of course, it is possible that the newly acquired cash could be invested in something that would provide a positive return for the firm.

(2)

3. Yes. A drastic cutback in advertising could lead to a loss of customers and a reduced market share. This could translate into reduced profits over the long term. With respect to repairs and maintenance, reduced outlays could prove costly by unintentional shortening of the useful lives of plant and equipment. Such action would likely result in an accelerated asset replacement program.

(3)

4. Anderson Manufacturing ROI: $(R3\,000\,000 - R2\,400\,000) \div R5\,000\,000 = 12\%$

Palm Beach Enterprises ROI: $(R4\,500\,000 - R4\,120\,000) \div R4\,750\,000 = 8\%$

From the preceding calculations, both investments appear attractive given the current state of affairs (i.e., Sporting Goods Division's current 6% ROI). However, if Washburn desires to maximize ROI, he would be advised to acquire only Anderson Manufacturing.

QUESTION 4 (continued)

	Current	Current + Anderson	Current + Anderson + Palm Beach
Income.....	R 360 000	R 960 000*	R 1 340 000**
Invested capital.....	6 000 000	11 000 000 ✓	15 750 000 ✓
ROI.....	6%	8.73% ✓	8.51% ✓

* $R360\,000 + (R3\,000\,000 - R2\,400\,000)$

** $R360\,000 + (R3\,000\,000 - R2\,400\,000) + (R4\,500\,000 - R4\,120\,000)$
(6)