

MBAB 823 (MANAGERIAL ACCOUNTING)

MEMORANDUM -2ND. OPP NOVEMBER 2019– TOTAL 100

QUESTION 1 (45)

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

(3 x 15 = 45)

1.6

Supporting calculations:

$$(R17\ 000 + R10\ 000) / 30\ 000 \text{ hours} = R0,90 \text{ per hour}$$

1.7

Supporting calculations:

$$(R17\ 000 + R10\ 000) / 30,000 \text{ hours} = R0,90 \text{ per hour}$$
$$R0,90 \times 27\ 000 = R24\ 300$$

1.8

Supporting calculations:

Cost of goods sold (Job no 6):

Direct materials	R 50 000
Direct labour	R 80 000
Overhead (R20 x 2 000)	<u>R 40 000</u>
	<u>R170 000</u>

1.9

Supported calculations:

Finished goods inventory (Job no 5):

Direct materials	R 36 000
Direct labour	R106 000
Overhead (R20 x 1 600)	<u>R 32 000</u>
	<u>R174 000</u>

1.10

Supporting Calculations:

Work in process (Job no. 4):

Direct materials	R 64 000
Direct labour	R128 000
Overhead (20 x 2 400)	<u>R 48 000</u>
	<u>R240 000</u>

QUESTION 2: Process costing

(19)

	Whole		
1)	Units	Materials	Conversion
Beginning WIP	5 000	100%	20%
Units started	<u>12 000</u>		
Total to account for	17 000		
Units Finished	13 000		
Ending WIP	<u>4 000</u>	100%	40%
Total accounted for	17 000		

Equivalent Units Weighted Average Method

Completed Units	13 000	13 000
Materials	4 000	
Conversion	-	<u>1 600</u>
Total	17 000	14 600

COST ADDED

	Materials	Conversion	Total
Beginning WIP	\$ 100 000	\$ 135 000	\$ 235 000
Current Costs	<u>50 000</u>	<u>95 000</u>	<u>145 000</u>
TOTAL	\$ 150 000	\$ 230 000	\$ 380 000

WTAVG	Cost per EU	8,8235	15,7534	24,5770	(8)
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2)

COST ASSIGNED - WEIGHTED AVERAGE

Finished Goods	13 000 units	\$ 319 500	(2)
Ending WIP	4 000 units		
Materials	35 294		
Conversion	25 205		
Total		<u>60 500</u>	(3)

3)	Total Costs	\$ 380 000
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4. The request is a violation of the controller's responsibility to prepare accurate production cost reports. The **ethical principles of integrity** and **objectivity** require the controller to use the best available estimate of percentage completion. (2)

Since there is a high level of ending WIP, the change from 40% to 60% would have a significant effect on equivalent units and cost per equivalent unit, as shown below.

The weighted-average conversion cost per equivalent unit decreases from R15,75 to R14,94

	Whole		
	Units	Materials	Conversion
Beginning WIP	5,000	100%	20%
Units started	<u>12,000</u>		
Total to account for	17,000		
Units Finished	13,000		
Ending WIP	<u>4,000</u>	100%	60%
Total accounted for	17,000		

Equivalent Units Weighted Average Method

Completed Units	13,000	13,000
Materials	4,000	
Conversion	<u>-</u>	<u>2,400</u>
Total	17,000	15,400

COST ADDED		Materials	Conversion	Total
	Beginning WIP	\$ 100,000	\$ 135,000	\$ 235,000
	Current Costs	<u>50,000</u>	<u>95,000</u>	<u>145,000</u>
	TOTAL	\$ 150,000	\$ 230,000	\$ 380,000
WTAVG	Cost per EU	8.8235	14.9351	23.7586
FIFO	Cost per EU	4.1667	6.5972	10.7639

(4)

QUESTION 3 (CVP relationships)

(26)

1. Break-even point in units:

$$\text{Break-even point} = \frac{\text{fixed costs}}{\text{unit contribution margin}}$$

Calculation of contribution margins:

	Computer-Assisted Manufacturing System	Labour-Intensive Production System
Selling price	R30,00 ✓	R30,00
Variable costs:		
Direct material	R5,00	R5,60
Direct labour	6,00	7,20
Variable overhead	3,00 ✓	4,80 ✓
Variable selling cost.....	<u>2,00</u>	<u>2,00</u> ✓
Contribution margin per unit	<u>R14,00</u> ✓	<u>R10,40</u> ✓
	(3)	(3)

(a) Computer-assisted manufacturing system:

$$\begin{aligned} \text{Break-even point in units} &= \frac{\text{R2 440 000} + \text{R500 000}}{\text{R14}} \quad \checkmark \\ &= \frac{\text{R2 940 000}}{\text{R14}} \quad \checkmark \\ &= 210\,000 \text{ units} \quad \checkmark \end{aligned}$$

(3)

(b) Labour-intensive production system:

$$\begin{aligned} \text{Break-even point in units} &= \frac{\text{R1 320 000} + \text{R500 000}}{\text{R10,40}} \quad \checkmark \\ &= \frac{\text{R1 820 000}}{\text{R10,40}} \quad \checkmark \\ &= 175\,000 \text{ units} \quad \checkmark \end{aligned}$$

(3)

QUESTION 3 (continued)

2. Celestial Products, Inc. would be indifferent between the two manufacturing methods at the volume (X) where total costs are equal.

$$\begin{array}{rcl} R16X + & = & R19,60X + R1\,820\,000 \\ R2\,940\,000 & & \end{array}$$

$$R3,60X = R1\,120\,000$$

$$X = 311\,111 \text{ units (rounded)}$$

(4)

3. Operating leverage is the extent to which a firm's operations employ **fixed operating costs**. The greater the **proportion of fixed costs** used to produce a product, the greater the **degree of operating leverage**. Thus, the **computer-assisted** manufacturing method utilizes a greater degree of operating leverage. (3)

The greater the degree of operating leverage, the greater the change in operating income (loss) relative to a small fluctuation in sales volume. Thus, there is a higher degree of variability in operating income if operating leverage is high. (2)

4. Management should employ the computer-assisted manufacturing method if annual sales are expected to exceed 311 111 units and the labor-intensive manufacturing method if annual sales are not expected to exceed 311 111 units. (2)

5. Celestial Products' management should consider many other business factors other than operating leverage before selecting a manufacturing method. Among these are:

- Variability or uncertainty with respect to demand quantity and selling price.
- The ability to produce and market the new product quickly.
- The ability to discontinue production and marketing of the new product while incurring the least amount of loss.

(3)

QUESTION 4 (Standard Costing)

(10)

1. Using variance formulas:

Leather type A

Direct material price variances:

$$\begin{aligned} &= PQ(AP - SP) \\ &= 10\,000(65.50 - 62.00) \quad \checkmark \\ &= 35\,000 \text{ unfavourable} \quad \checkmark \end{aligned}$$

Direct material quantity variances:

$$\begin{aligned} &= SP(AQ - SQ) \\ &= 62.00(2560 - 2500) \quad \checkmark \\ &= 3720 \text{ unfavourable} \quad \checkmark \end{aligned}$$

Total direct material quantity variance = 17 175 U (4)

Leather forming process

Direct labour rate variances:

$$\begin{aligned} &= AH(AR - SR) \\ &= 4400(25.10 - 25.00) \quad \checkmark \\ &= 440 \text{ unfavourable} \quad \checkmark \end{aligned}$$

Direct labour efficiency variances:

$$\begin{aligned} &= SR(AH - SH) \\ &= 25(4400 - 5000) \quad \checkmark \\ &= 15\,000 \text{ favourable} \quad \checkmark \end{aligned} \quad (4)$$

Discussion   (2)